

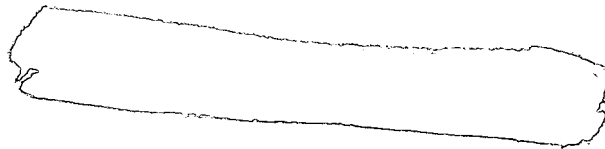
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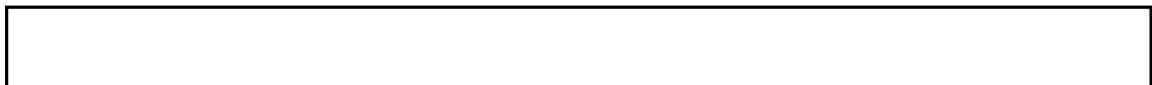
PHOTOGRAPHIC INTELLIGENCE REPORT



CHINESE POWER PLANTS

TSINGHAI PROVINCE

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CIA/PIR 65147

DATE JUNE 1966

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CHINESE POWER PLANTS

TSINGHAI PROVINCE

- (A) Hsin-chen Thermal Power Plant
- (B) Hsing-lung Chuang Thermal Power Plant

REQUIREMENT

C-RR5-83,218

CIA/IAD PROJECT

30647-6

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ksun
hsün)

Turfan
(T'u-lu-fan)

Shan-sha

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FIGURE 1

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REGION

hlik
'iang)

Lop Nor

Su-lo Ho

An-hsi

Tun-huang

Yü-men

(Lao-chün-miao)

Ting-hsin

Chiu-ch'uan

Leng-hu

Mang-yai

Kan-sen

T'a-erh-ting

Ta-ch'ai-tan

Pu-lun-t'ai

Ka-erh-mu
(Golmo)

Pa-lung

Koko Nor
(Ch'ing Hat)

Hsi-ning

Kuei-te

TSINGHAI

Ma-ch'u Ho

Yü-shu

A-pa

Nagchhu Dzong
(Hei-ho)

Te-ko

Kan-tzu

CHAMDO

Ch'ang-tu

S Z E

ching

Lhasa

T'ai-chao

Batang

Ya-an

Brahmaputra (Tsangpo)

Tsethang

Tatsienlu
(K'ang-ting)

Wu-t'ung

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HSIN-CHEN THERMAL POWER PLANT

The Hsin-chen Thermal Power Plant is located on the western bank of the Po-ko Ho (River) in the southern sector of Mao-shan at coordinates 36 54 40N - 101 41 10E. The facility is rail-served, coal-operated, and includes a sub-station with two transformers, control house, large oil storage tank, pumping station, and numerous support/storage buildings.

It is impossible to ascertain the number of boiler units because there are no dust-catcher units or flues visible on the available photography. There appears to be one set of three-cable power leads from the generator hall to one of the transformers.

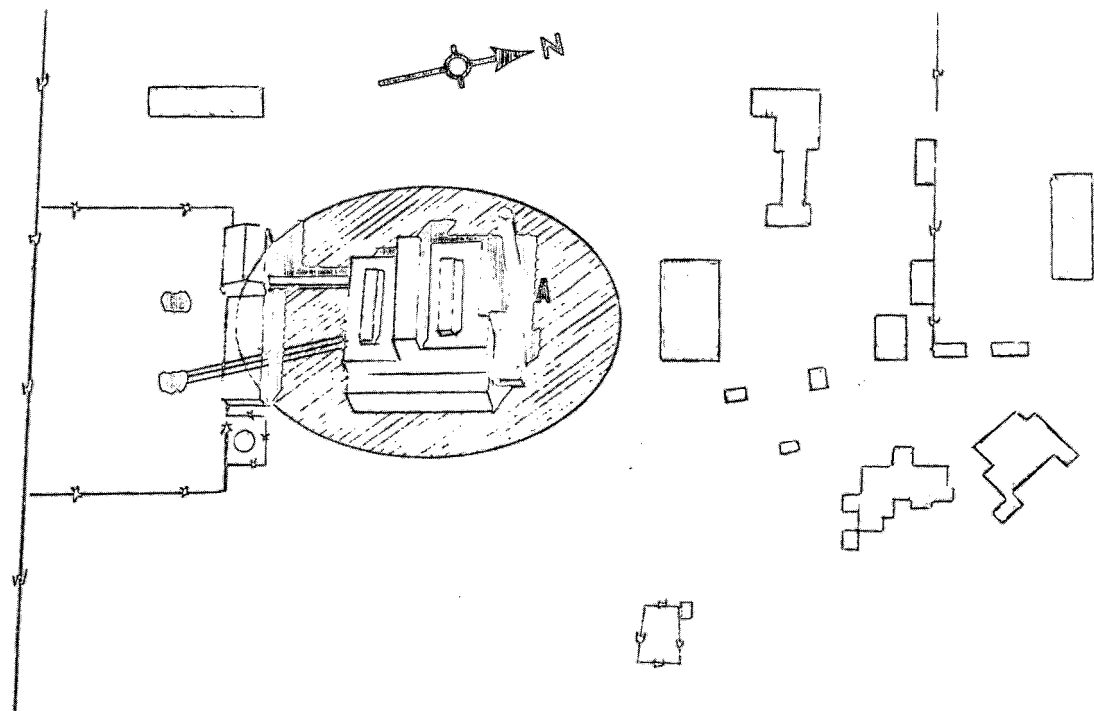
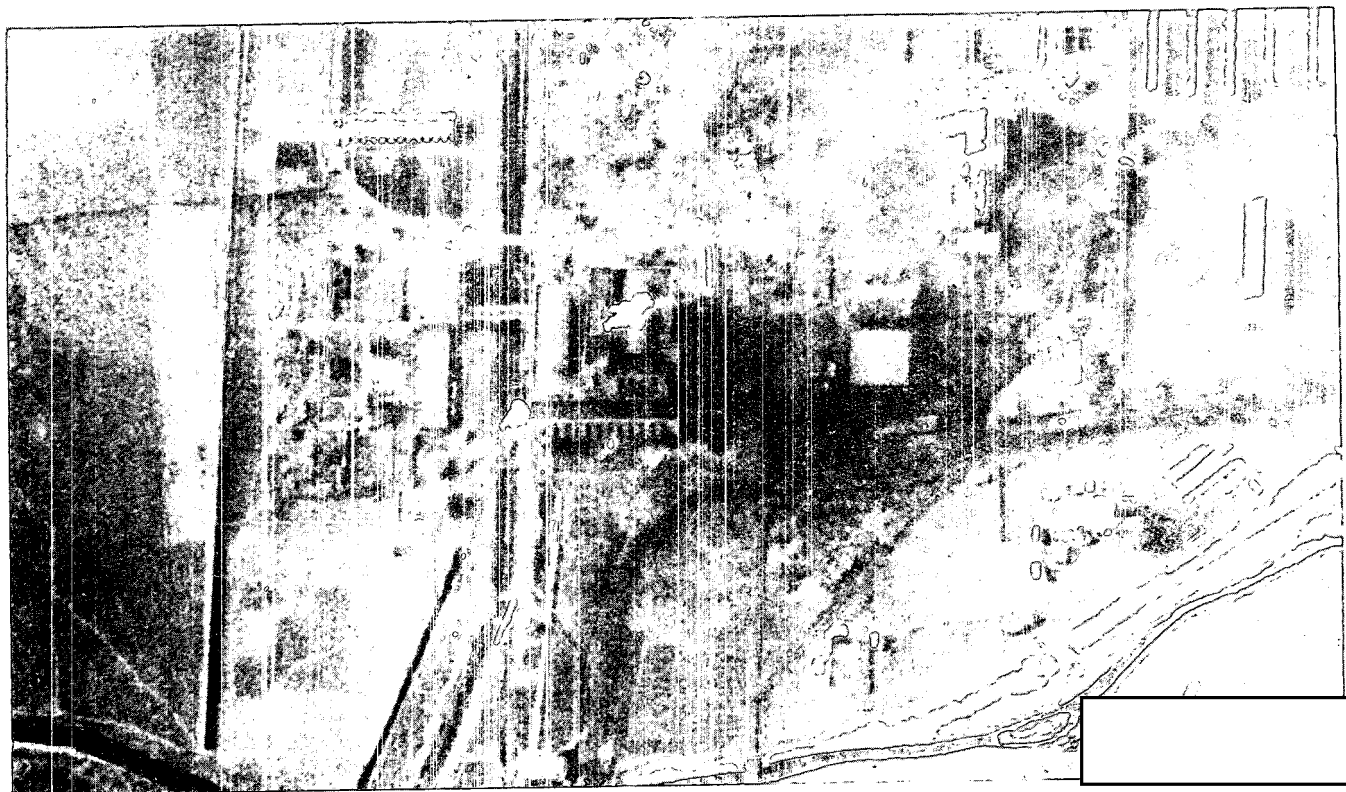
There has been no new construction during the period from 1962 through 1965.

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FIGURE 2

HSIN-CHEN THERMAL POWER PLANT



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HSIN-CHEN THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Light smoke from stack A.
	None	Light smoke from stack A.
	None	Light smoke from stack A.
	None	Light smoke from stack A.
	None	Light smoke from stack A.

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HSING-LUNG CHUANG THERMAL POWER PLANT
BE NUMBER - [REDACTED]

Hsing-lung Chuang Thermal Power Plant is located within the confines of the [REDACTED]

[REDACTED] The facility is rail-served, coal-operated and includes two separate powerhouses, control house, sub-station with two possible transformers, six small oil storage tanks, administrative building, a bank of eight forced-draft cooling towers, and coal handling and treatment facilities.

The newer and expanding plant appears to consist of five boiler units. Photography [REDACTED] showed two widely spaced flues connecting the partly finished powerhouse to stack B, indicating that two units were installed; subsequent expansion suggests that three additional units could be housed in the boilerhouse. The flue system for the entire plant has apparently been covered making it impossible to assess the number of boilers from the number and placement of flues. No power-cables could be discerned from available photography.

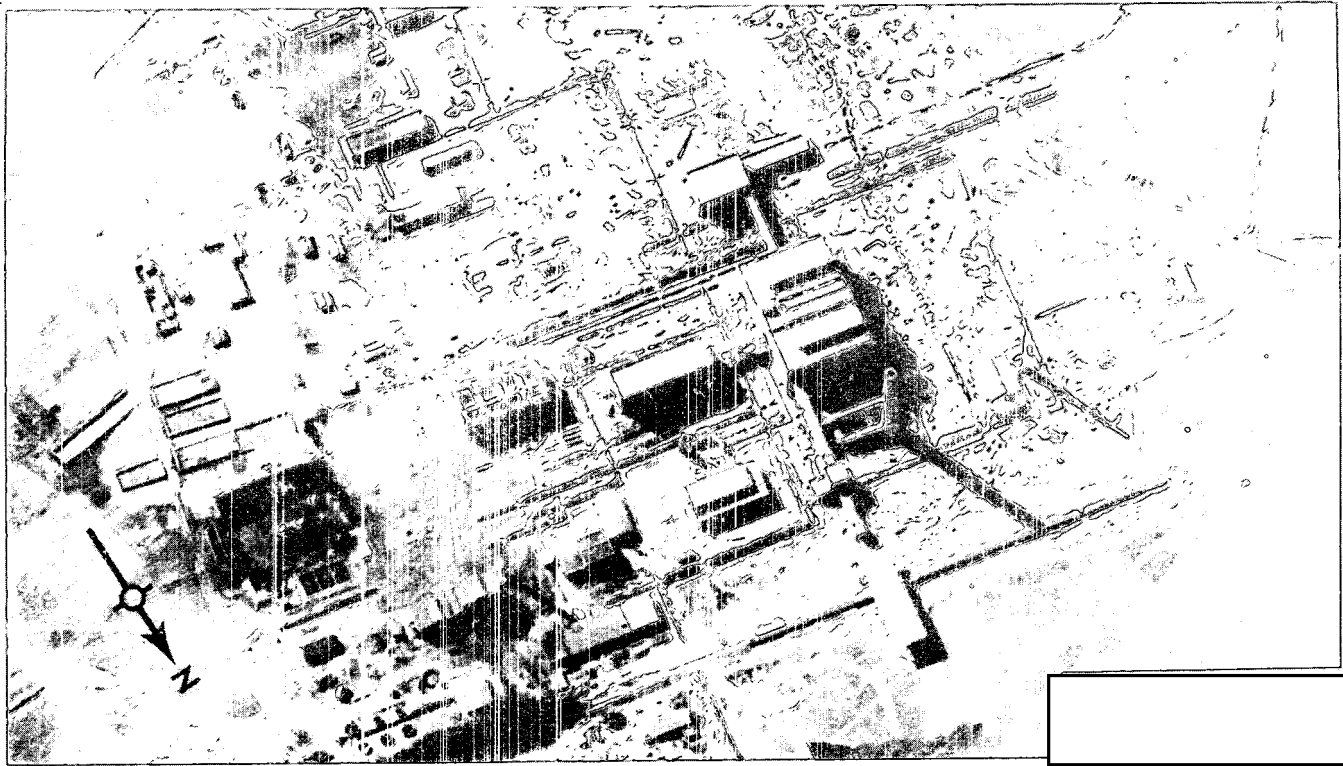
An older and much smaller second plant is located east of the new facility. This power plant consists of one boiler-generator unit serviced by masonry stack A, a small sub-station with one probable transformer, three small water basins, and a spray pond.

Extensive additions to the new powerhouse, erection of several support buildings, and completion of the new sub-station occurred between [REDACTED]

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FIGURE 3

HSING-LUNG CHUANG THERMAL POWER PLANT

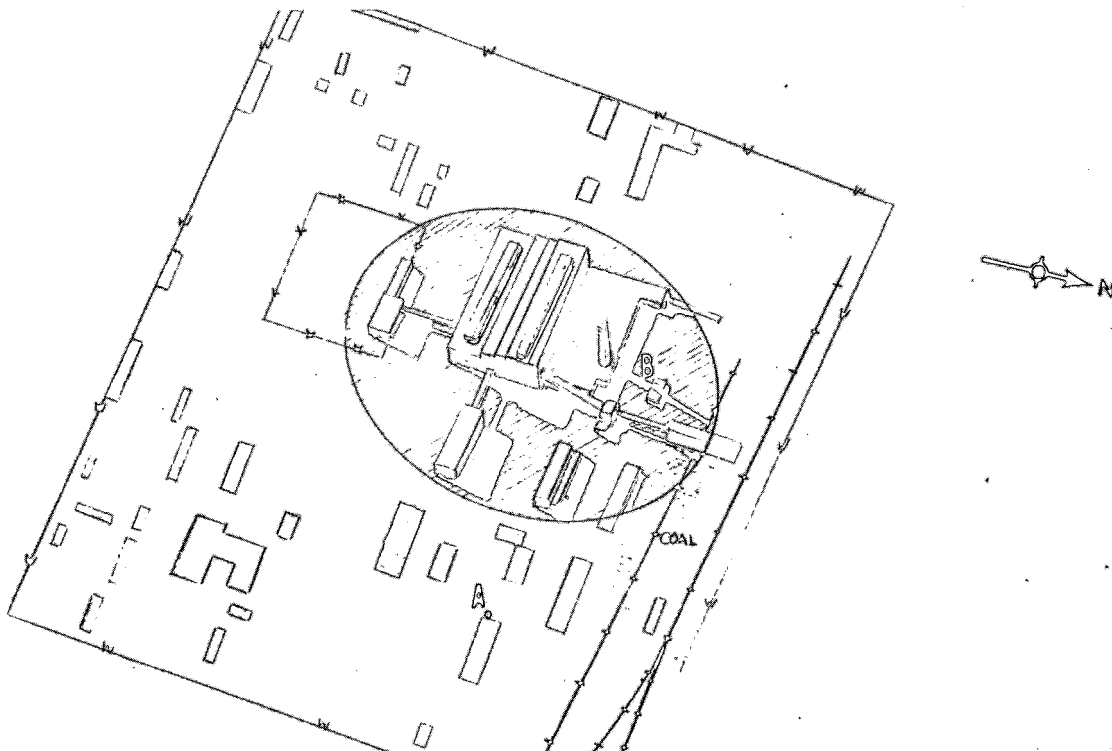
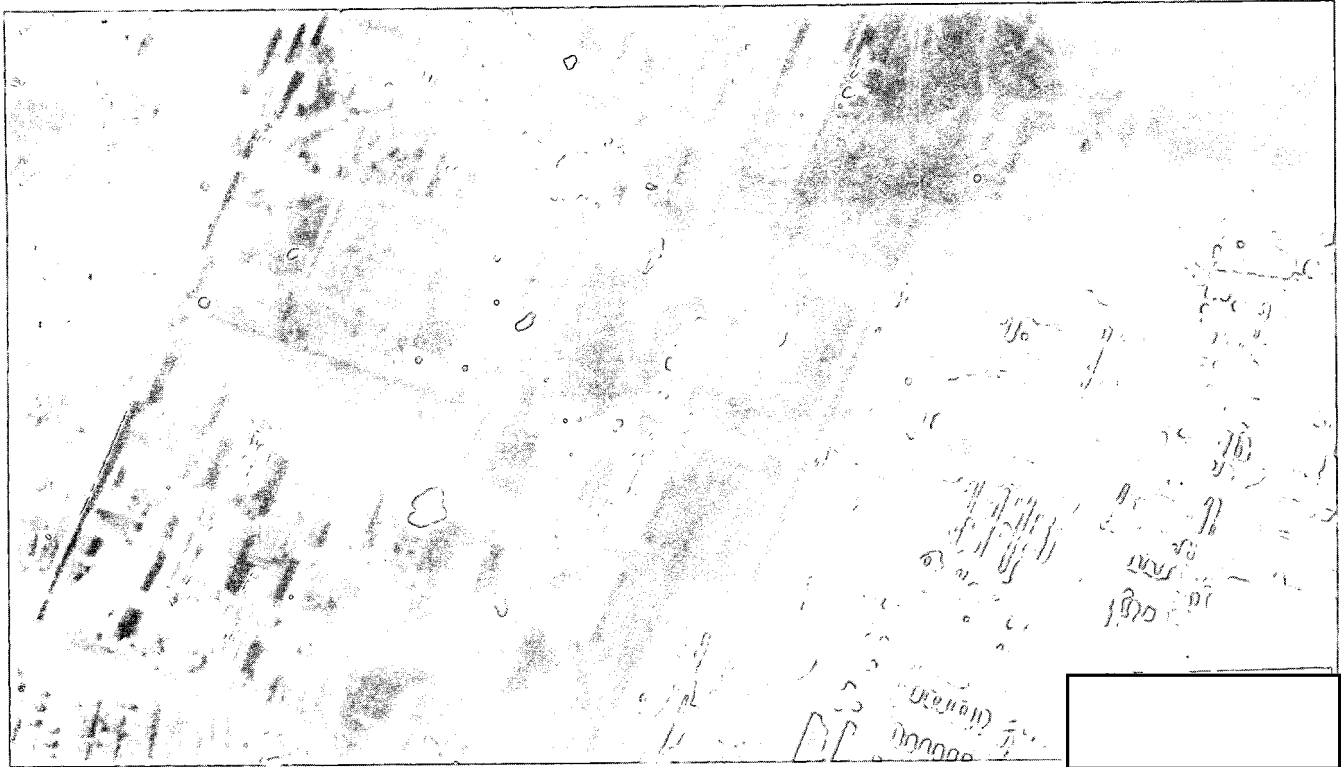


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FIGURE 4

HSING-LUNG CHUANG THERMAL POWER PLANT



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HSING-LUNG CHUANG THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	Boiler-generator sections for at least two units appear to be completed. Control building is finished and cable trenches and bus-bars are evident in the sub-station. The coal handling and processing facilities are complete and work is nearly done on a bank of eight forced-draft cooling towers. Construction of six small POL storage tanks is underway northeast of the old power plant.	Light smoke from stack A.
	None	Light smoke from stack B. Possible light smoke from stack A.
		Poor quality photography/haze preclude analysis.
	Uprights for three probable boiler-generator sections appear to be in place.	Light smoke from stack B. Possible smoke from stack A. Vapor may be coming from cooling systems.

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HSING-LUNG CHUANG THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	<p>A support/storage building east of plant appears complete as is a new building south of the coal stockpile. Three new boiler-generator units appear completed, but may not be connected to stack B.</p>	<p>Light smoke from stack B. No vapor from cooling system apparent.</p>
	<p>None</p>	<p>Moderate smoke from stack B. Poor quality photography precludes further analysis.</p>
	<p>A covered flue system appears to be completed. Shadows preclude detailed assessment.</p>	<p>Light smoke from stacks A and B. Moderate vapor from at least two cooling units.</p>
	<p>Clouds preclude analysis.</p>	<p>Clouds preclude analysis.</p>
	<p>None</p>	<p>Very light smoke from stack B. Possible smoke from stack A.</p>

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PHOTOGRAPHIC INTELLIGENCE REPORT



RAILROAD CONSTRUCTION ACTIVITY
IN SOUTHWEST CHINA



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CIA/PIR 65148

DATE Oct 1966

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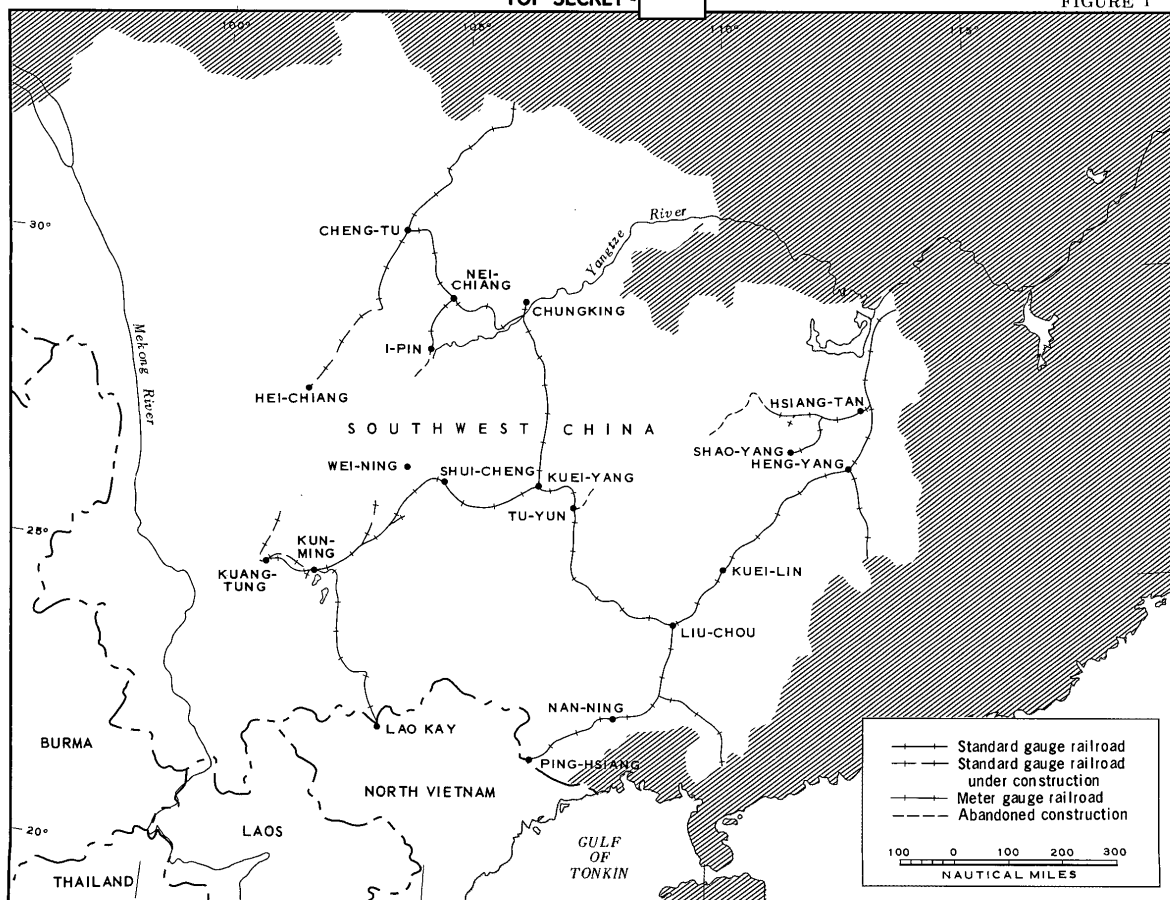
RECENT RAILROAD CONSTRUCTION ACTIVITY
IN SOUTHWESTERN CHINA

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FIGURE 1



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SUMMARY

Recent aerial photography reveals that the Chinese have resumed significant railroad construction in southwestern China during the past 18 months. The construction effort has been concentrated on railroad lines that would directly link southwest China with the main railroad systems.

The railroad lines covered in this report are the Cheng-tu (30 40N - 104 04E) to Kun-ming (25 04N - 102 41E), the Kuei-yang (26 35N - 106 43E) to Kun-ming, the Chung-king (29 34N - 106 34E) to Kuei-yang, the Hsiang-tan (27 51N - 112 54E) to Tu-yan (26 16N - 107 31E), and the Nei-chiang (29 35N - 105 03E) to Kun-ming Railroad Lines (Figure 1).

All of the railroad lines covered in this report are standard-gauge and single track.

Both the northern (Cheng-tu) and southern (Kun-ming) segments of the Cheng-tu/Kun-ming Railroad Line are under active construction. The Line is operational for 4 nm westward from Kun-ming with evidence of construction extending west and north for approximately 120 nm. On the Cheng-tu segment, the line is operational southward from Cheng-tu for approximately 130 nm with evidence of construction extending an additional 170 nm.

The Kuei-yang/Kun-ming Railroad Line has been under intense construction during the past year, and is now probably complete. This rail line directly links western Yunnan Province with the main railroad network of China, thereby eliminating the need of using the North Vietnamese railroad system for rail service between these two areas.

Photography dated [] revealed that the Chung-king/Kuei-yang Railroad Line was complete. This rail line directly connects the Szechwan Basin with southwest China and North Vietnam.

The proposed 500 nm Hsiang-tan to Tu-yan Railroad Line would provide a more direct rail line between southeast and southwest China. Ninety nm of this railroad line had been completed [] Construction on this line was halted during the retrenchment period and there is no evidence that construction has been resumed.

The Nei-chiang/Kun-ming Line was designed to provide a second line between the Szechwan Basin and Yunnan Province. Seventy-two nm of this railroad line had been completed [] Construction was halted during the retrenchment period and there is no evidence that construction has been resumed.

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Railroad facilities are being expanded at Kun-ming. The Kun-ming Railroad Classification Yards and transfer site is being enlarged and a new standard-gauge yard has been constructed on the south edge of Kun-ming.

Cheng-tu/Kun-ming Rail Line	Page 3
Kuei-yang/Kun-ming Rail Line	4
Chung-king/Kuei-yang Rail Line	5
Hsiang-tan/Tu-yan Rail Line	6
Nei-chiang/Kun-ming Rail Line	7
Kun-ming Rail Facilities	8

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CHENG-TU/KUN-MING RAIL LINE

Northern Segment

The northern segment of the Cheng-tu/Kun-ming Rail Line is complete and operational from Cheng-tu southward to 29 28N - 103 31E, a distance of approximately 130 nm (Figure 2). Railroad cars were observed near the southern terminus of this segment in a yard at Chia-chiang (29 44N - 103 35E) (Figure 3).

Active construction was observed from the present railhead south and southwestward to the end of construction at Hsi-chang (27 53N - 102 18E), a distance of approximately 170 nm. Roadbed grading, tunneling, and bridge construction can be traced almost continuously from the railhead to 29 14N - 102 55E. Several large construction camps were observed along this portion of the line (Figure 4). Intermittent areas of construction were observed from this point southward to Hsi-chang (Figures 5 and 6).

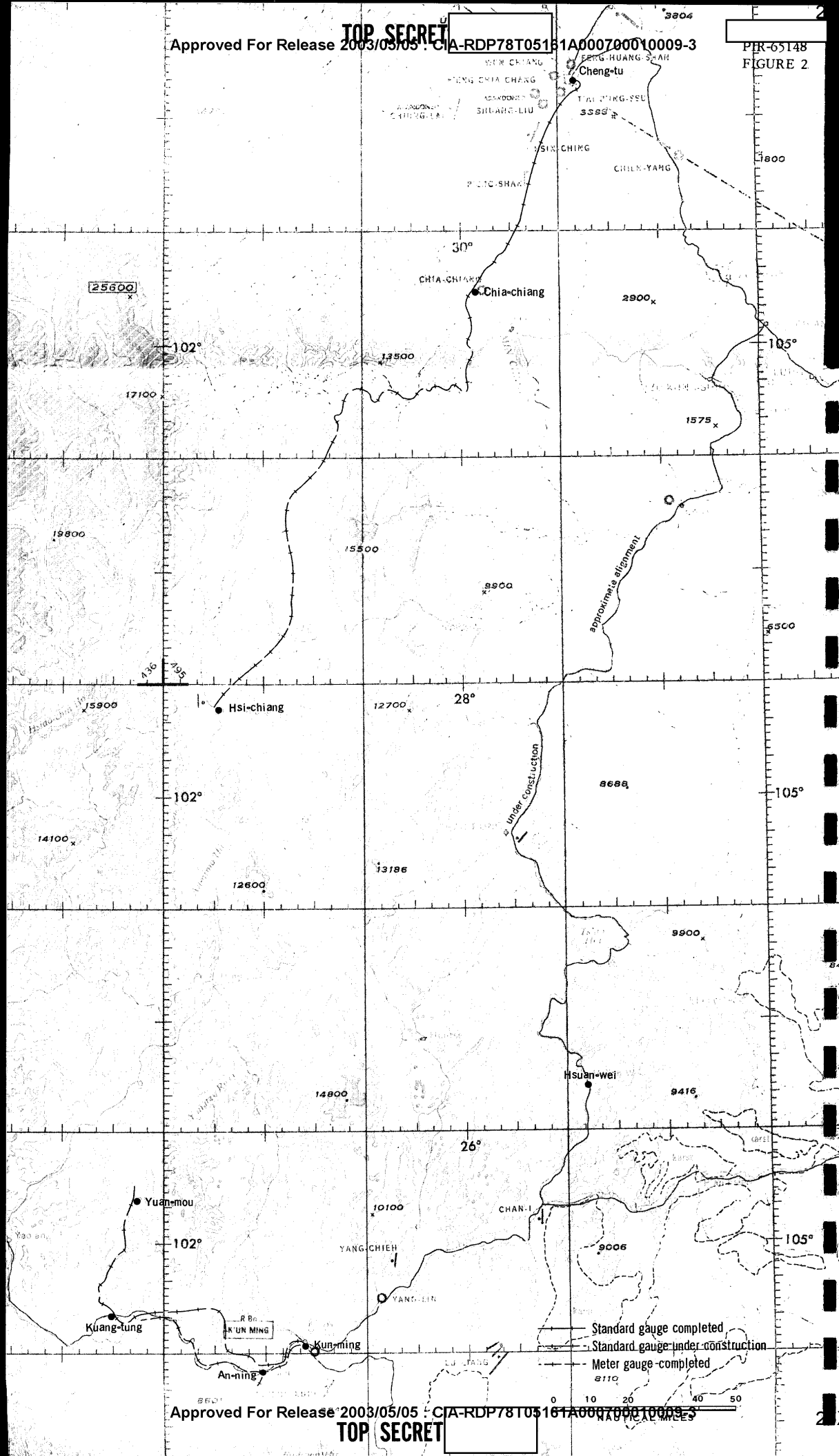
Southern Segment

The southern segment of this line has been completed from Kun-ming to 24 59N - 102 36E, a distance of approximately 4 nm. Active construction has been observed from this point westward to Kuang-tung (25 10N - 101 45E) and then northward to the Yuan-mou (25 41N - 101 51E) area, a distance of approximately 125 nm. Construction in this area consists of roadbed grading, tunneling, and bridge construction (Figure 7). Several large construction camps, vehicle parks, vehicles, and pieces of heavy construction equipment were observed along this segment of line (Figure 8).

There is approximately 75 nm separating the northern and southern segments of the line where no construction activity was found. The terrain within this gap is quite rugged and will necessitate many bridges and tunnels.

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FIGURE 2



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FIGURE 5



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FIGURE 6

CHEN J. J. TRAINING RAILROAD

SECTOR OF
TRUC BAI

HUACHANG

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FIGURE 7

CHUNG KUNG MIN RAIL ROAD
JUN 10 1945

BRIDGE PERS

CHUNG KUNG MIN RAIL ROAD

CHUNG KUNG MIN RAIL ROAD

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CIA IMAGERY ANALYSIS DIVISION

KUEI-YANG/KUN-MING RAIL LINE

The Kuei-yang/Kun-ming Rail Line has been under intense construction during the past year. It has been confirmed photographically that the entire line is now complete with one exception; [REDACTED]

[REDACTED] In order to show the difficult terrain through which this line was constructed Figures 10, 11, 12 and 13 are enclosed.

The rapid rate of construction through this extremely rugged terrain indicates that the Chinese have placed great importance on this rail line. The following factors may have contributed to this fact: (1) a direct rail line to Kun-ming from eastern China eliminates the need of using the vulnerable, often interdicted North Vietnamese meter-gauge railroad system and the time-consuming transloading facilities at Ping-hsiang, China and (2) the Chinese now have the option of directly shipping material by rail from Central or eastern China via the Kun-ming - Lao Cai - Hanoi Rail Line.

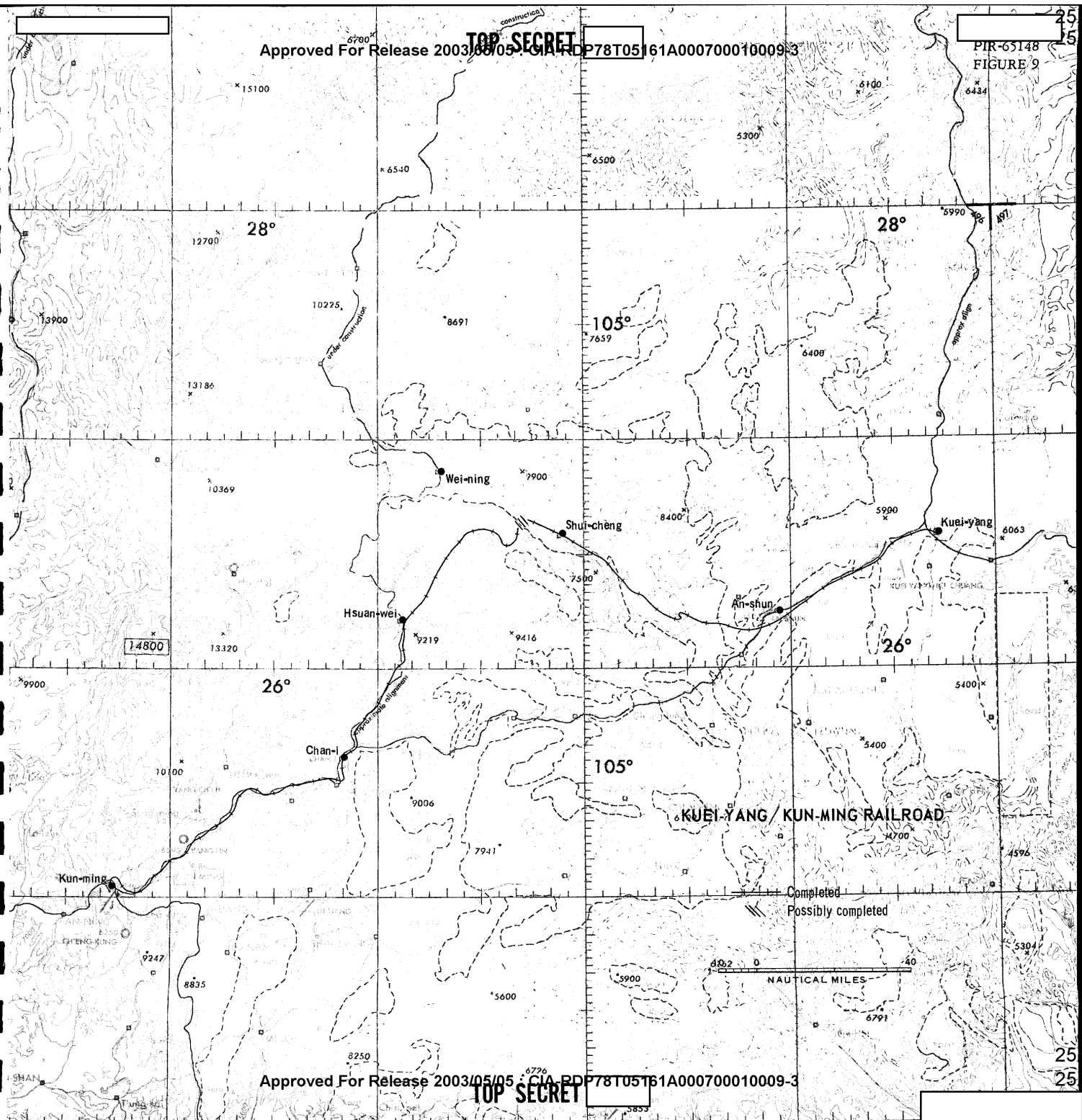
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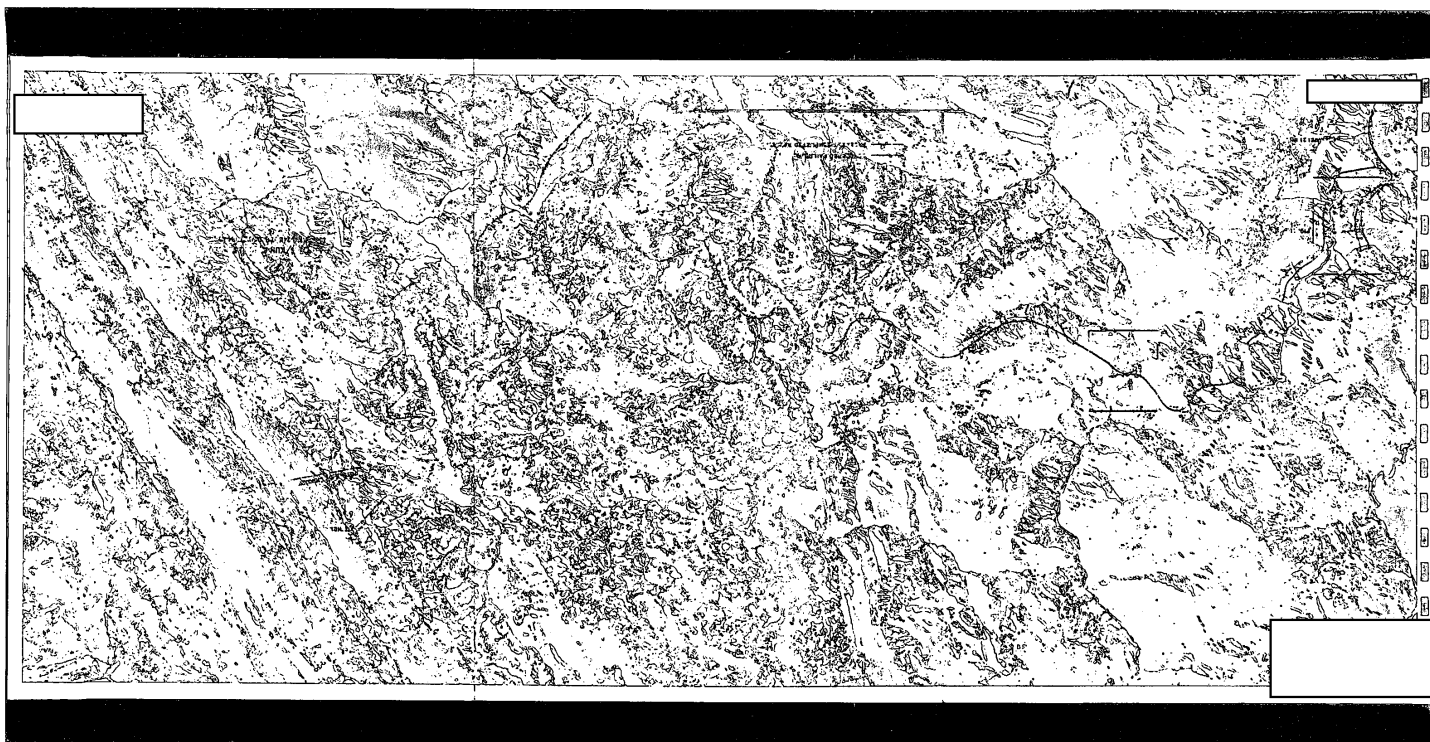
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FIGURE 9



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FIGURE 14



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MING/KUEI-YANG RAILROAD

25-41N 106-24E

CONSTRUCTION
CAMP

25-41N 106-24E

CONSTRUCTION
CAMP

COMPLETED TRACK

TUNNEL AREA

BRIDGE

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FIGURE 12

KUEI-YANG/KUN-MING RAILROAD
26-43N 104-40E

CONSTRUCTION CAMP

TUNNEL ENTRANCE

ROADBED

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CHUNG-KING/KUEI-YANG RAIL LINE

The Chung-king/Kuei-yang Line is the northernmost line of a rail system directly connecting the Szechwan Basin with southeastern China and North Vietnam.

X1 Photography [] revealed the presence of rolling stock in several yards along the railroad line - indicating that the line had been completed and was in use. The line extends from Chung-king to Kuei-yang, a distance of approximately 210 nm (Figure 14). Traffic can now move directly from Szechwan Province to western Yunnan Province utilizing both the Chung-king - Kuei-yang Line and the probably complete Kuei-yang/Kun-ming Rail Line.

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CIA IMAGERY ANALYSIS DIVISION

HSIANG-TAN/TU-YAN RAIL LINE

This line was projected to extend for approximately 500 nm in a westerly direction from Hsiang-tan to Tu-yan. The line would provide a more direct link between southeast and southwest China than the present rail line through Liu-chou (24 19N - 109 24E).

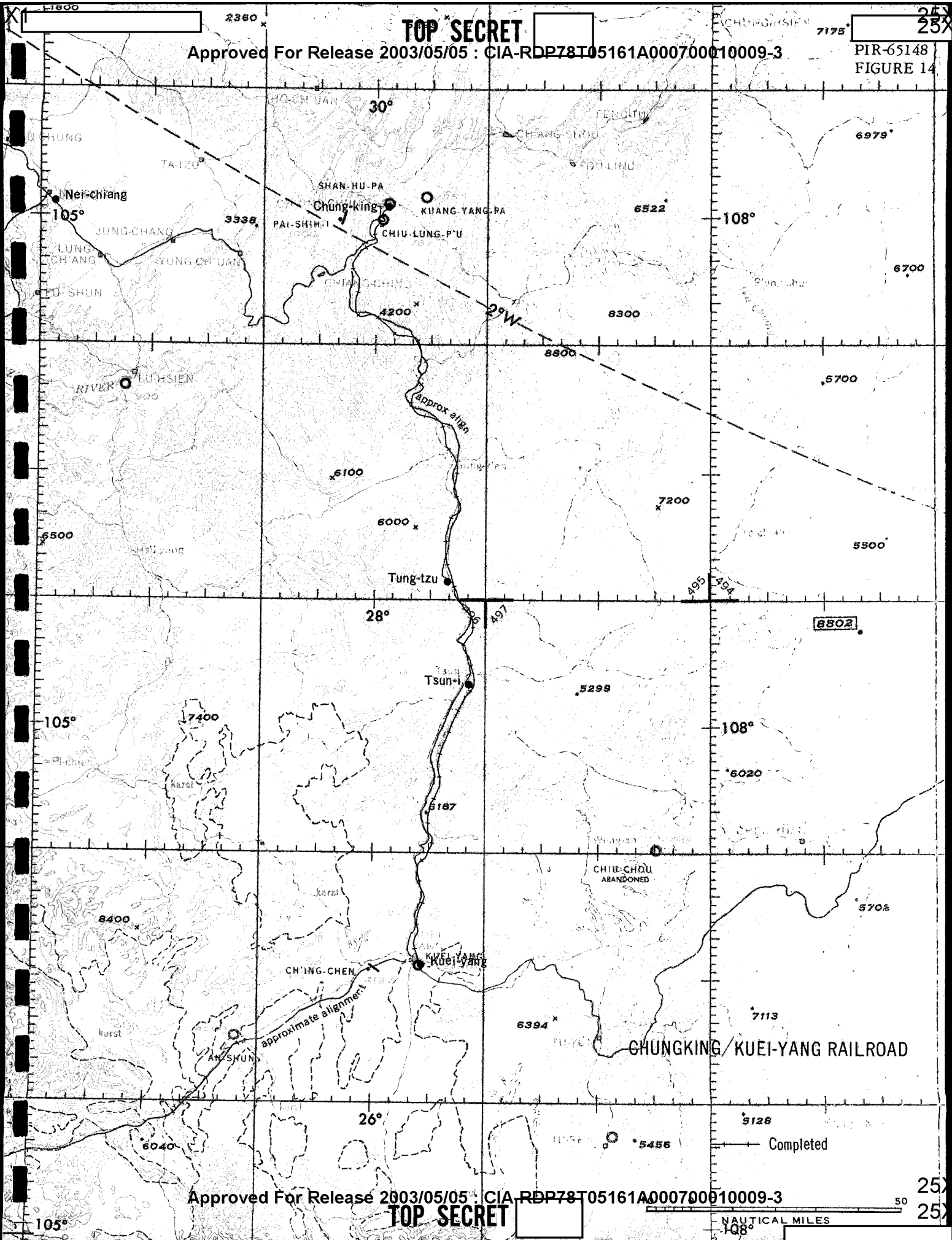
This line has been completed from Hsiang-tan westward to the east bank of the Tzu-shui (River) (27 39N - 111 26E), a distance of approximately 90 nm (Figure 15). A spur branches from the main line at 27 49N - 112 02E and extends southward to Shao-yang (27 14N - 111 27E), a distance of about 60 nm (Figure 15). Evidence of abandoned construction exists from the railhead at (27 39N - 111 26E) southwestward to the Yuan Chiang (River) at 27 52N - 110 22E, a distance of 80 nm (Figure 15).

On the western end of the rail line, evidence of abandoned construction extends from its junction with the Kuei-yang/Liu-chou Rail Line at 26 12N - 107 30E, approximately 30 nm eastward to 26 32N - 107 48E.

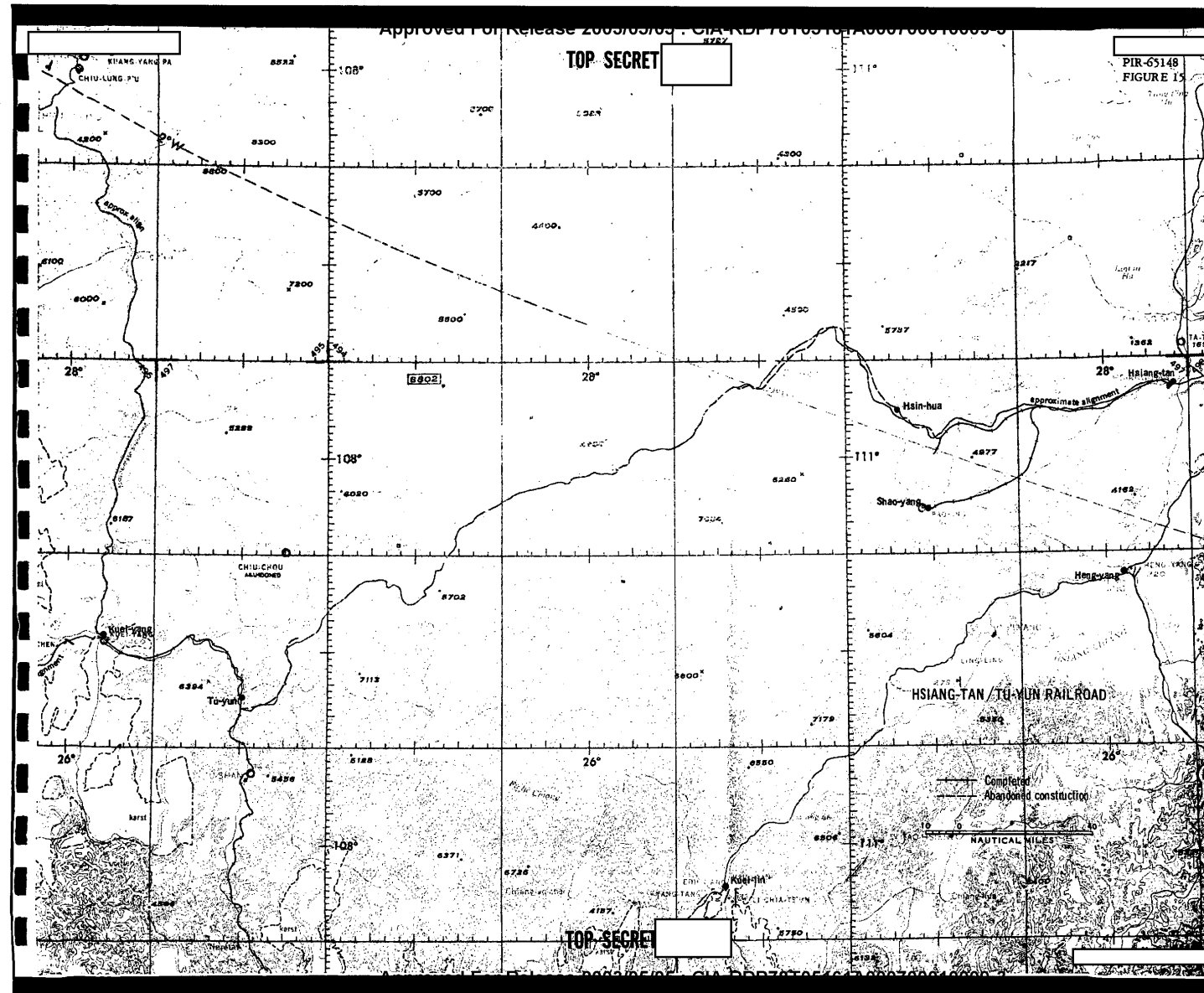
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NEI-CHIANG/KUN-MING RAIL LINE

This line has been completed from Nei-chiang southwestward to An-pien-chang (28 39N - 104 26E), a distance of approximately 72 nm. Abandoned construction extends from the railhead southward into the Ta-Lou Mountains to 28 23N - 104 15E, a distance of approximately 22 nm (Figure 16).

The Kun-ming segment of the line may be one of two areas of railroad construction. The first alternative is a segment of abandoned rail construction extending from the Kuei-yang/Kun-ming Line at 26 39N - 104 32E northward for 5 nm. Abandoned ground scarring and bridge construction has been observed along this segment (Figure 17). The second alternative is an operational segment extending from the Kuei-yang/Kun-ming Line at 25 17N - 103 15E northward to 26 02N - 103 12E, a distance of 35 nm. There is light construction activity beyond the railhead northward to 26 11N - 103 07E, a distance of approximately 13 nm (Figure 19).

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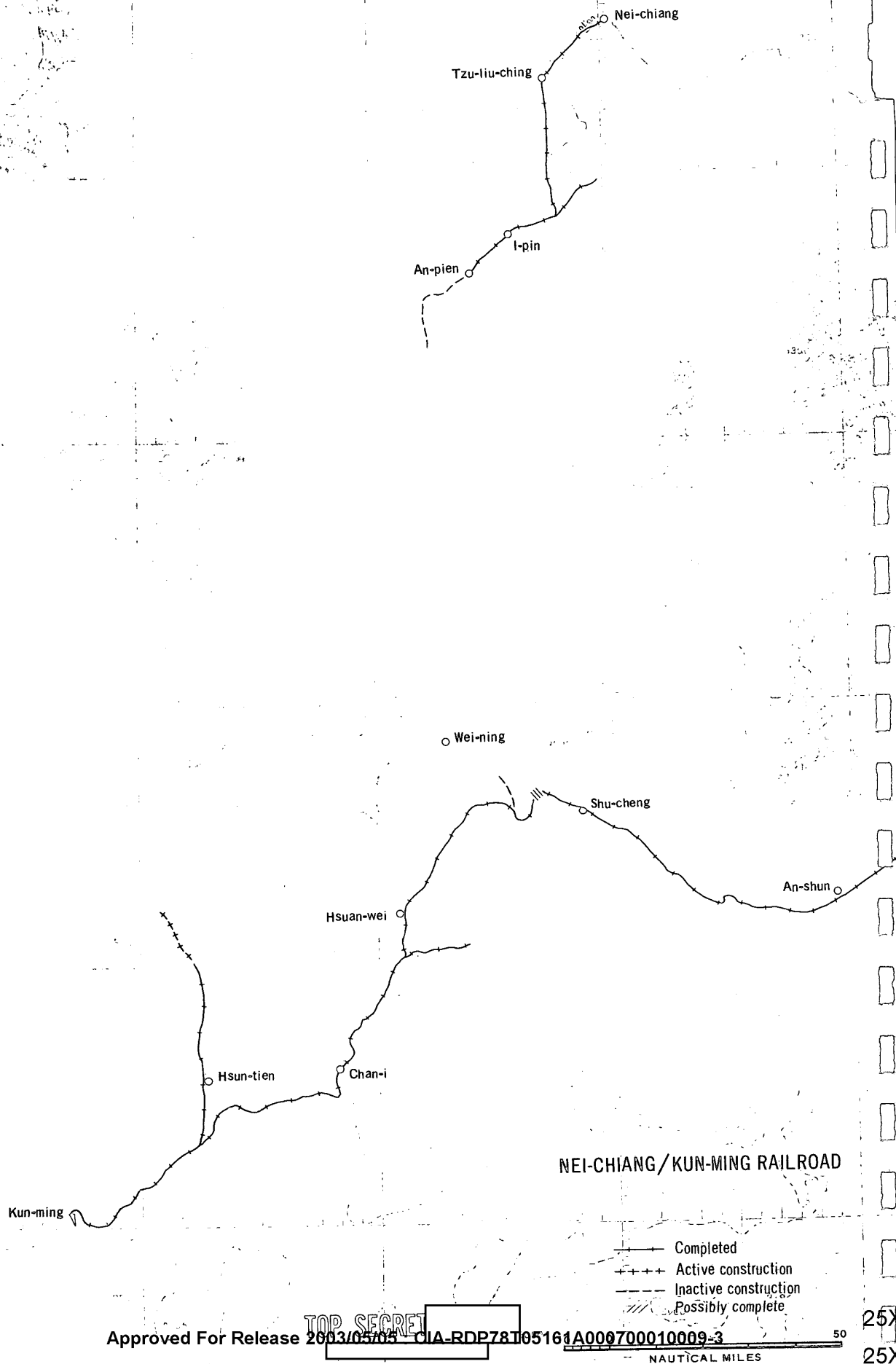
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FIGURE 16

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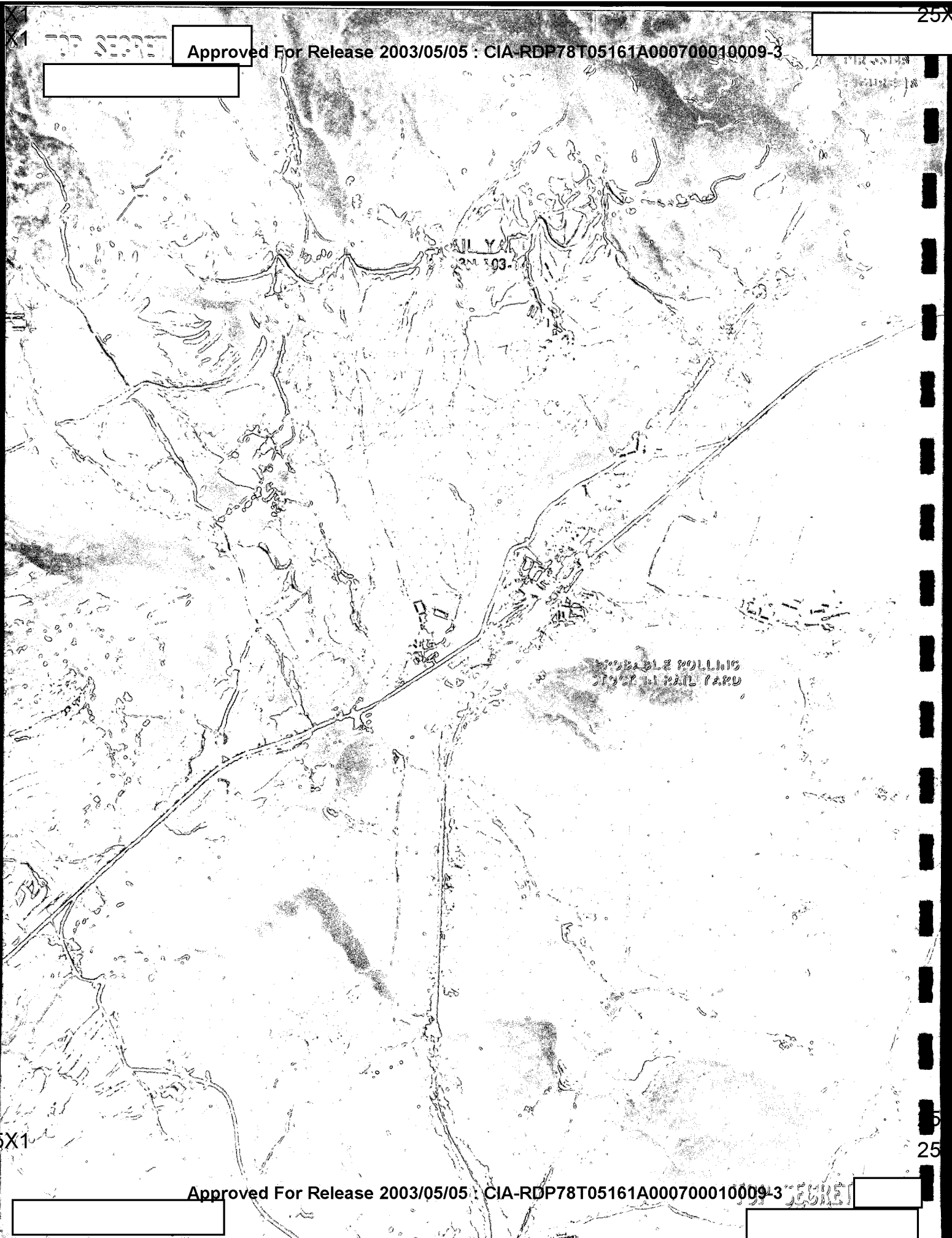


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FIGURE 19

END OF
CONSTRUCTION

BRIDGE PIERS

ROADBED UNDER
CONSTRUCTION

RAILROAD CONSTRUCTION

26-11N 103-07E

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CIA IMAGERY ANALYSIS DIVISION

KUN-MING RAIL FACILITIES

Recent aerial photography reveals that the rail facilities at Kun-ming are being expanded (Figure 20). The facilities are described below.

1. The Kun-ming Railroad Classification Yards and Transfer Site (Figure 21). This installation contains two yards:

- (a) a classification yard consisting of 8 standard-gauge tracks and
- (b) a transfer site consisting of 4 meter-gauge tracks and 3 standard-gauge tracks. Other facilities in these yards include a turning wye, storage areas, and repair facilities. A large construction area indicates further expansion of this installation. The Kun-ming Railroad Car Repair Plant Southeast is located just south of the yards.

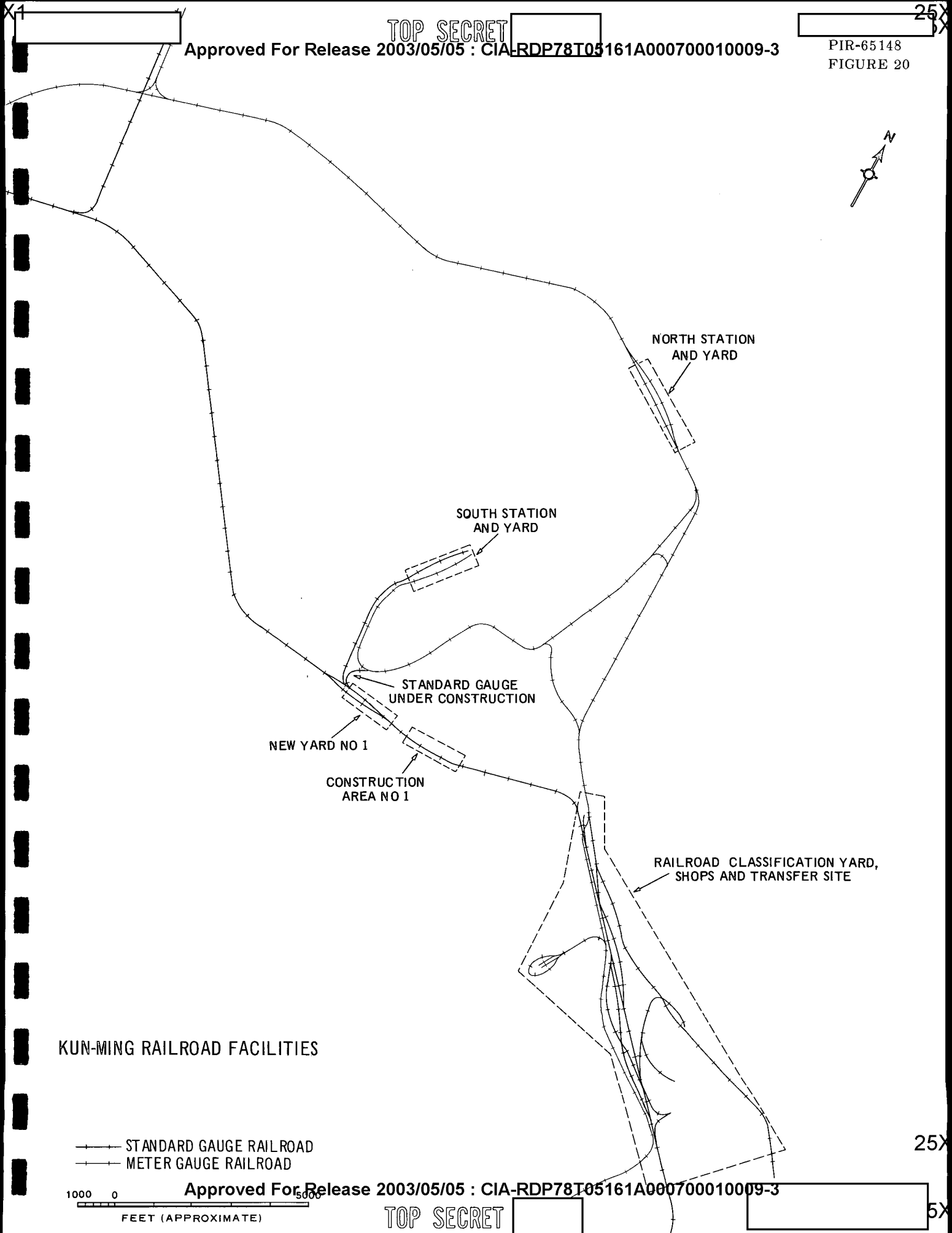
2. The meter-gauge Kun-ming Railroad Station Yards and Shops North (Figure 22). This installation consists of a 7-track passenger/freight yard, a 10-track holding and storage yard, repair shops, and a turntable.

3. The Kun-ming Railroad Station and Yard South (Figure 23), is possibly being used for both meter and standard-gauge equipment. The yard consists of freight and passenger sidings and a 4-track storage yard.

4. A new standard-gauge, 5-track yard has been constructed on the south edge of Kun-ming (Figure 24). A construction area just east of this yard suggests further rail facility expansion.

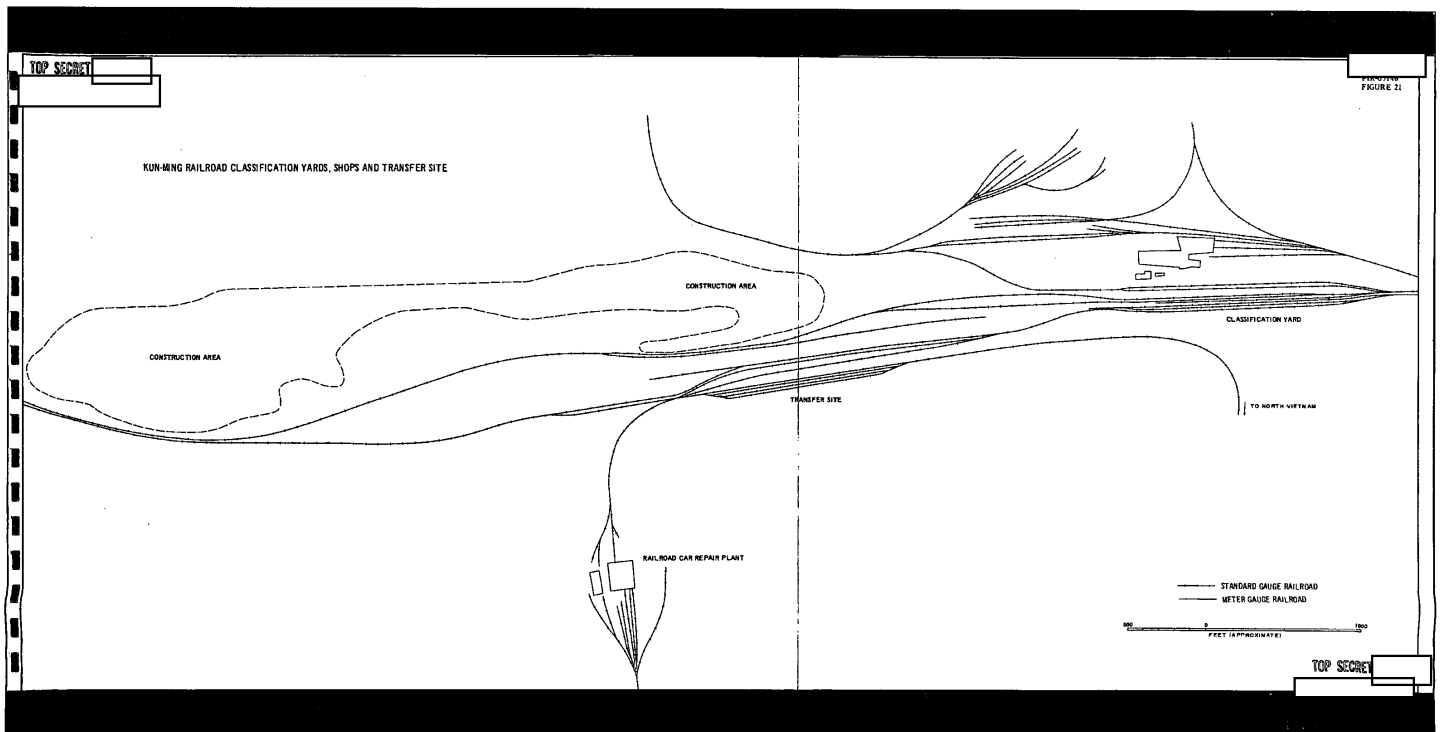
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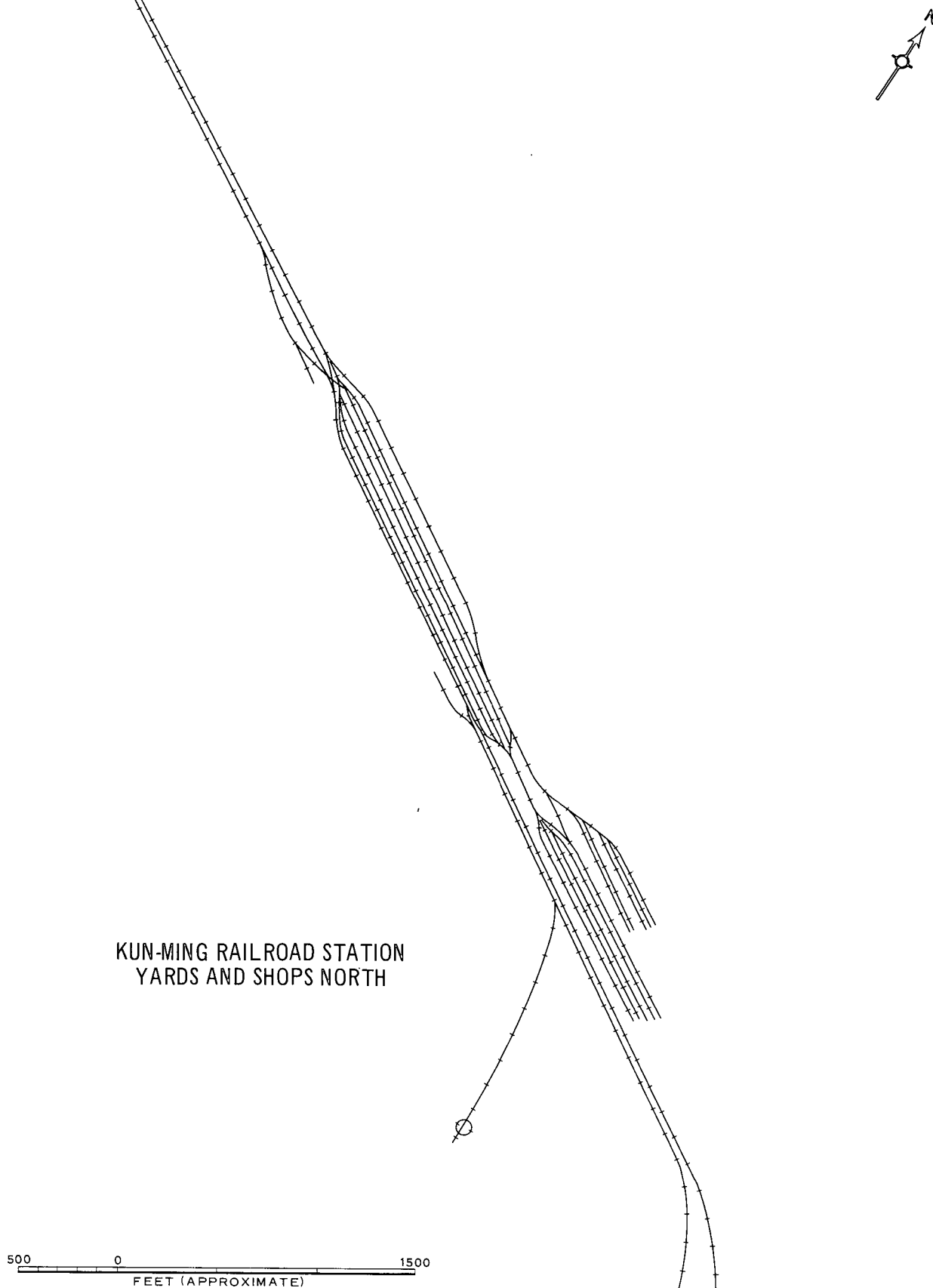
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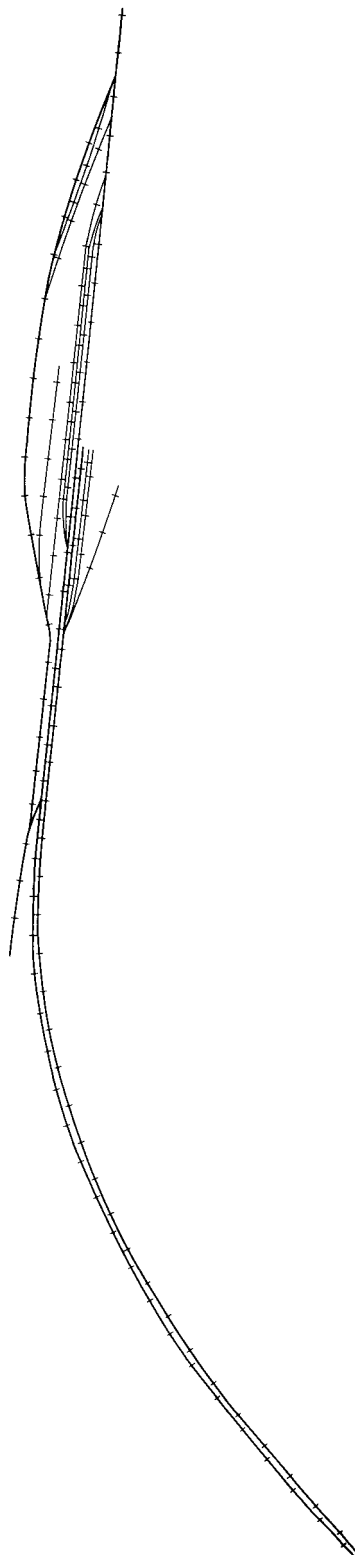
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FIGURE 23



KUN-MING RAILROAD STATION AND YARD SOUTH

500 0 1500
FEET (APPROXIMATE)

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FIGURE 24



NEW RAILROAD YARD NO 1

KUN-MING NEW RAILROAD YARD NO 1
AND CONSTRUCTION AREA

CONSTRUCTION AREA 1

500 0 1500
FEET (APPROXIMATE)

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MAPS AND CHARTS

ACIC. USAF Jet Navigation Chart, Brahmaputra River JN 37, Scale 1:2,000,000, 4th ed., October 1965. (UNCLASSIFIED)

REQUIREMENT

C-RR6-83,781

CIA/IAD PROJECT

30079-7

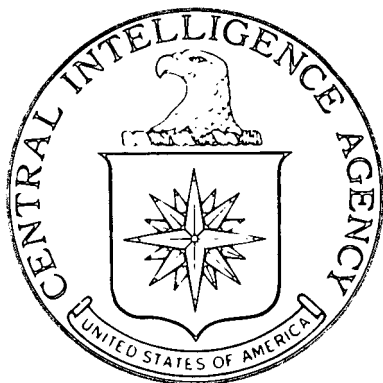
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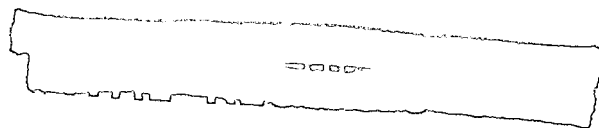


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DIVISION

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PHOTOGRAPHIC INTELLIGENCE REPORT



CHINESE POWER PLANTS

HOPEH PROVINCE



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CIA/PIR 65150

DATE JUNE 1966

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PAGES 57

GROUP 1
Excluded from automatic
downgrading and declassification

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25X

CHINESE POWER PLANTS

HOPEH PROVINCE

- (A) Han-tan Thermal Power Plant
- (B) Hsia-hua-yuan Thermal Power Plant
- (C) Huai-lai Hydro Power Plant (Kuan-ting)
- (D) Lin-hsi Thermal Power Plant
- (E) Mi-yun Hydro Power Plant
- (F) Pao-ting Thermal Power Plant
- (G) Peiping Heat and Thermal Power Plant TETS
- (H) Peiping Thermal Power Plant (Chang-hsien-tien)
- (I) Peiping Thermal Power Plant (Kao-ching)
- (J) Peiping Thermal Power Plant (Shih-ching-shan)
- (K) Ping-shan Hydro Power Plant
- (L) Shih-chia Chuang (Shih-men) Thermal Power Plant
- (M) Tang-shan Thermal Power Plant
- (N) Tientsin Thermal Power Plant No. 1
- (O) Ting-hsien Hydro Power Plant

REQUIREMENT

C-RR5-83,218

CIA/IAD PROJECT

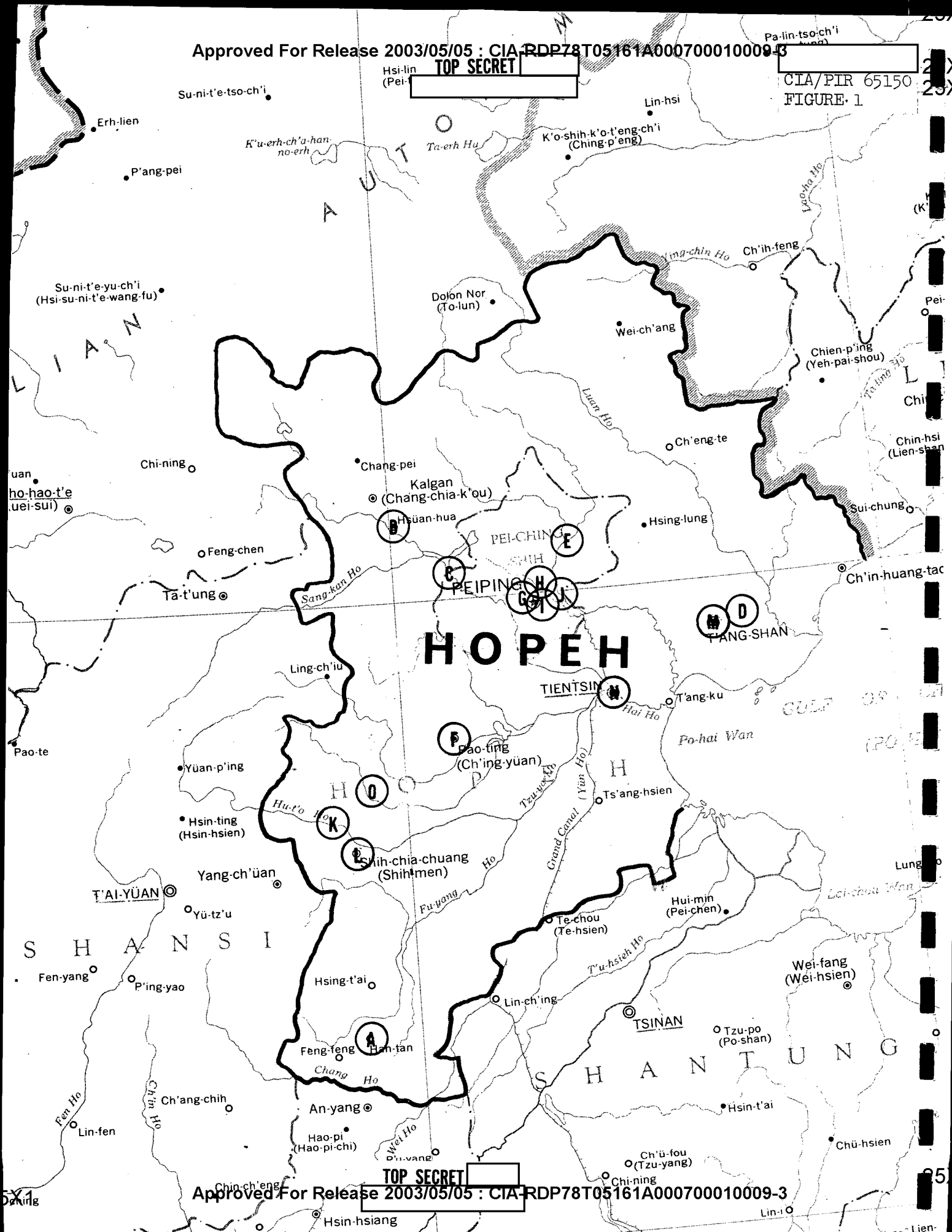
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CIA/PIR 65150
FIGURE 1



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HAN-TAN THERMAL POWER PLANT

REF ID: A66001

Han-tan Thermal Power Plant is located in the northeast sector of Han-tan at coordinates 36 36 10N - 114 26 30E. The facility is rail-served, coal-operated and consists of a sub-station with at least five transformers, a control house, settling pond, coal handling and processing facilities, and numerous support/storage buildings.

Coverage was poor over Han-tan and it was impossible to ascertain the number of dust-catchers and flues serving the boilerhouse; however, the size of the boilerhouse indicates that there could be at least five units connected to stack A and at least two units connected to stack B. Power cables could not be detected leading from the generator hall.

There has been no significant change during the specified period from 1963 through 1965.

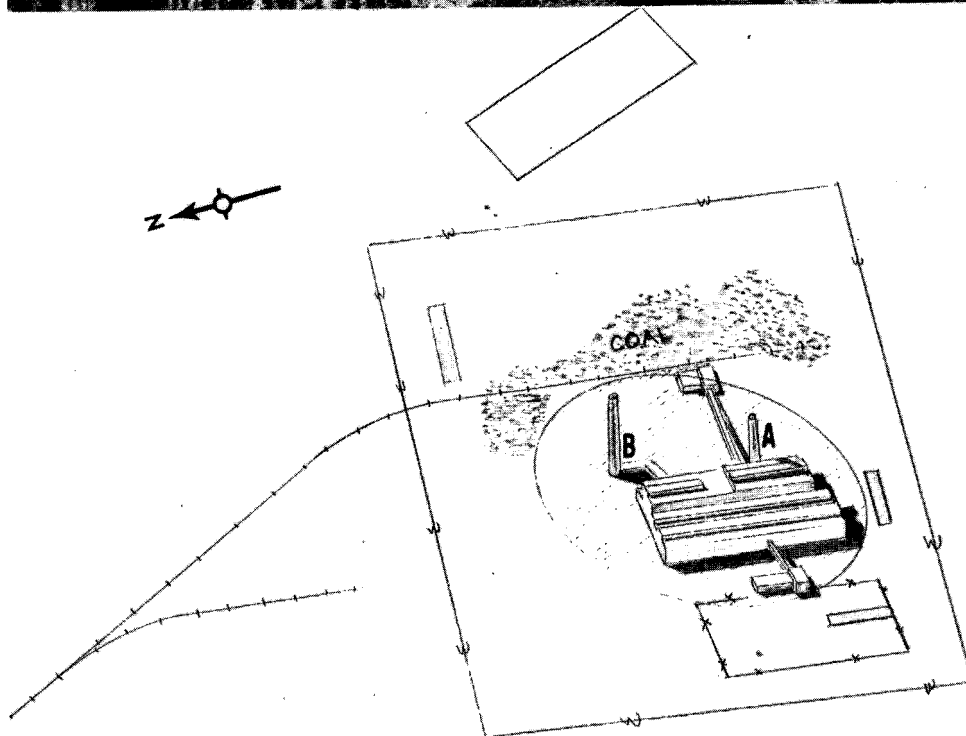
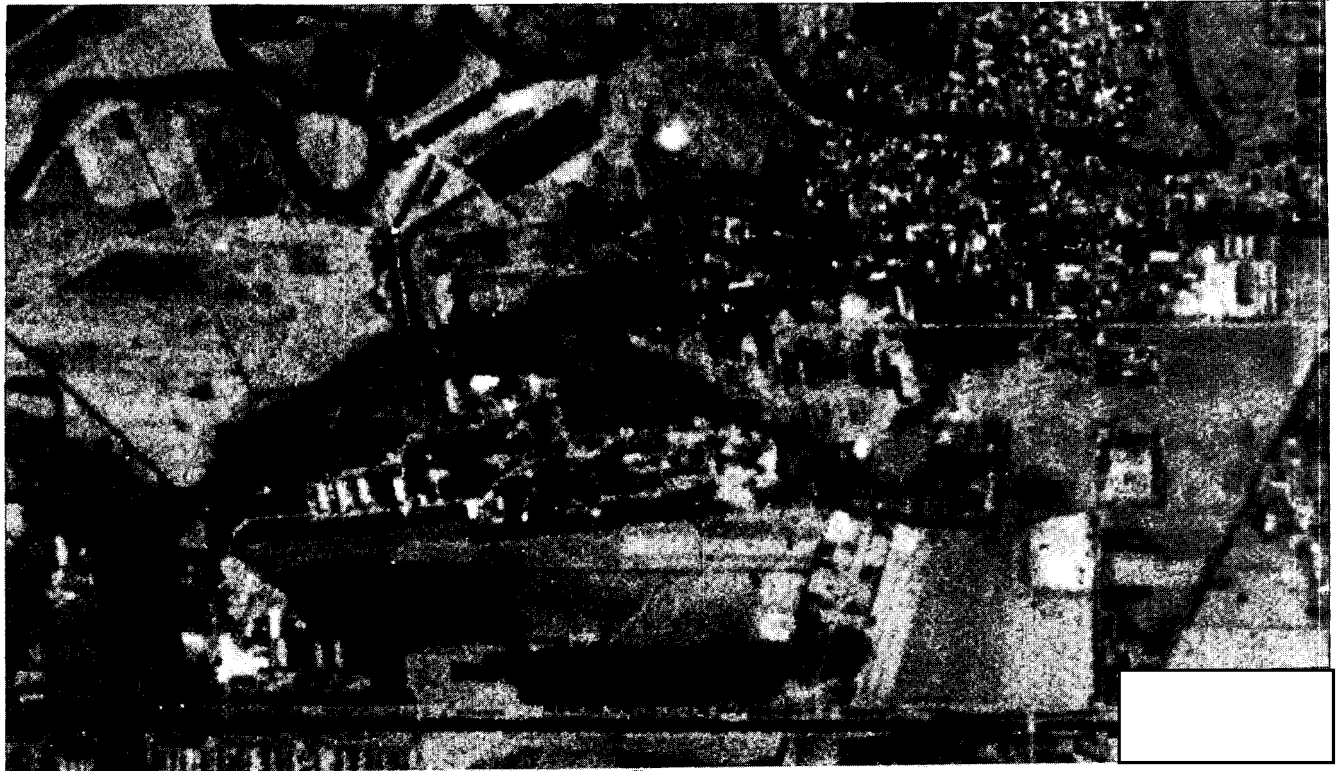
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FIGURE 2

HAN-TAN THERMAL POWER PLANT



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HAN-TAN THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Light smoke from stack A.
	None apparent. Poor quality photography precludes assessment.	Light smoke from stack A.
	None apparent. Poor quality photography precludes assessment.	Heavy smoke from stack A.
	Poor quality photography precludes analysis.	Appears to be light smoke from stack A.
	None	Moderate smoke from stack A.
	None	Moderate smoke from stack A.

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25X1

HAN-TAN THERMAL POWER PLANT

PHOTO DATA

CONSTRUCTION ACTIVITY

LEVEL OF PRODUCTION

None

Light smoke from stack A.

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B

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HSIA-HUA-YUAN THERMAL POWER PLANT

NPIC NUMBER - 38

The Hsia-hua-yuan Thermal Power Plant is located within Hsia-hua-yuan proper at coordinates 40 29 00N - 115 15 55E. The facility is coal-operated, rail-served and includes three natural draft masonry or reinforced concrete cooling towers, a sub-station containing one transformer, a probable cooling pond and extensive coal handling and processing facilities.

The powerhouse is of several distinct designs, having been enlarged several times. The boiler house probably contains three units, and has space for at least two more in the newer and larger western section. The generator hall has only one set of power leads; these connect the newer generator hall section to the single transformer.

No new construction occurred during the 1962 through 1965 period.

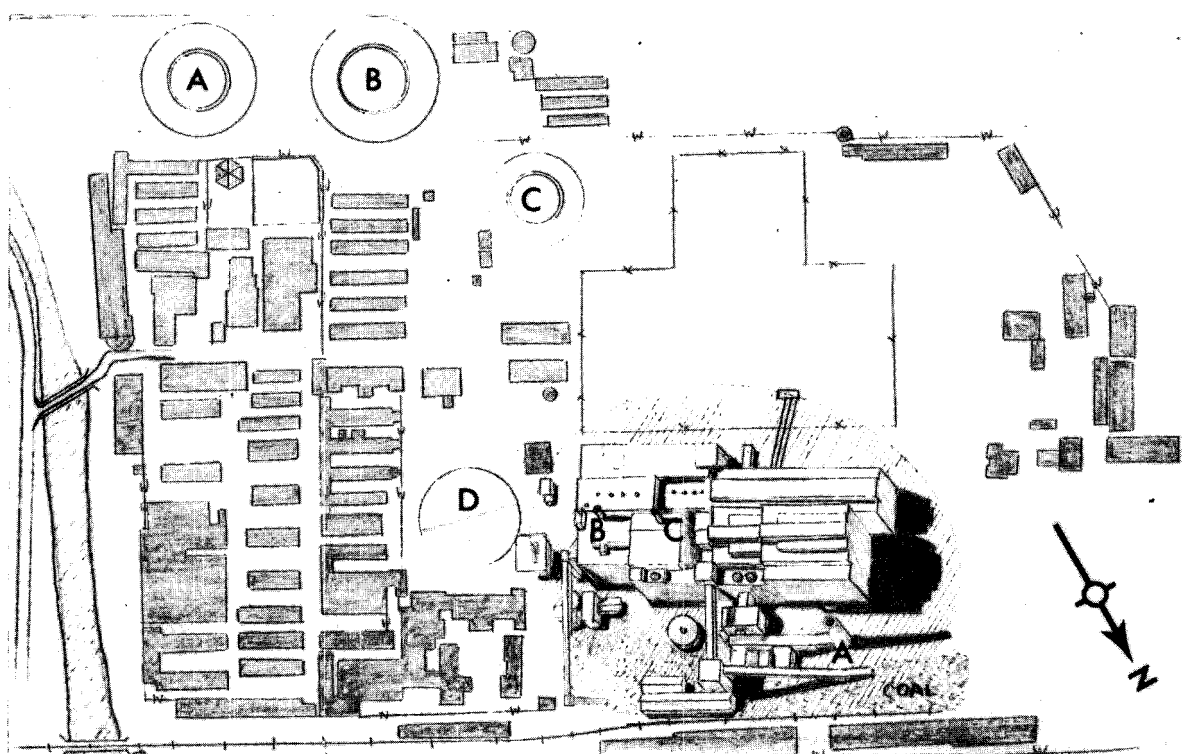
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FIGURE 3

HSIA-HUA-YUAN THERMAL POWER PLANT



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CIA/PIR 65150

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HSIA-HUA-YUAN THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Light smoke from stack A. Moderate vapor from cooling tower A.
	None	Light smoke from stack A. Light vapor from cooling tower A. Light vapor and inflow at cooling pond D.
	None	Light smoke from stack A. Heavy vapor from cooling tower A. Light vapor from cooling tower B. Light vapor from cooling pond D.
	None	Light smoke from stack A. Moderate vapor from cooling tower B. Light vapor from cooling pond D.
	None	Light smoke from stack A. Heavy vapor from cooling tower A.

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CIA/PIR 65150

HSTA-HUA-YUAN THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Light smoke from stack A. Moderate vapor from cooling tower A. Light vapor from cooling towers B and C.
	None	Light smoke from stack A. Light vapor from cooling towers A and C.
	None	Probable light smoke from stack B.

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HUAI-LAI HYDRO POWER PLANT (KUAN-TING)

NPIC NUMBER - 45-A

The Huai-lai Hydro Power Plant is located approximately 0.75 nm south of the Huai-lai Dam at coordinates 40 13 05N - 115 36 40E. The water appears to enter an intake located on the eastern sector of the Huai-lai Dam and is carried south approximately 0.75 miles to a possible buried surge tank (located within the sub-station) and then dropped through buried penstocks to the generator hall. It is difficult to ascertain the number of turbines because the discharge outlets cannot be seen; however, the size of the plant indicated that there is adequate room for two or three turbo-generator units. Two or three possible transformers appear to be located adjacent and immediately north of the generator hall. The sub-station is located above the plant and is connected by a probable elevator shaft.

Of the [] missions that covered this plant, [] provided the only coverage that showed turbulence.

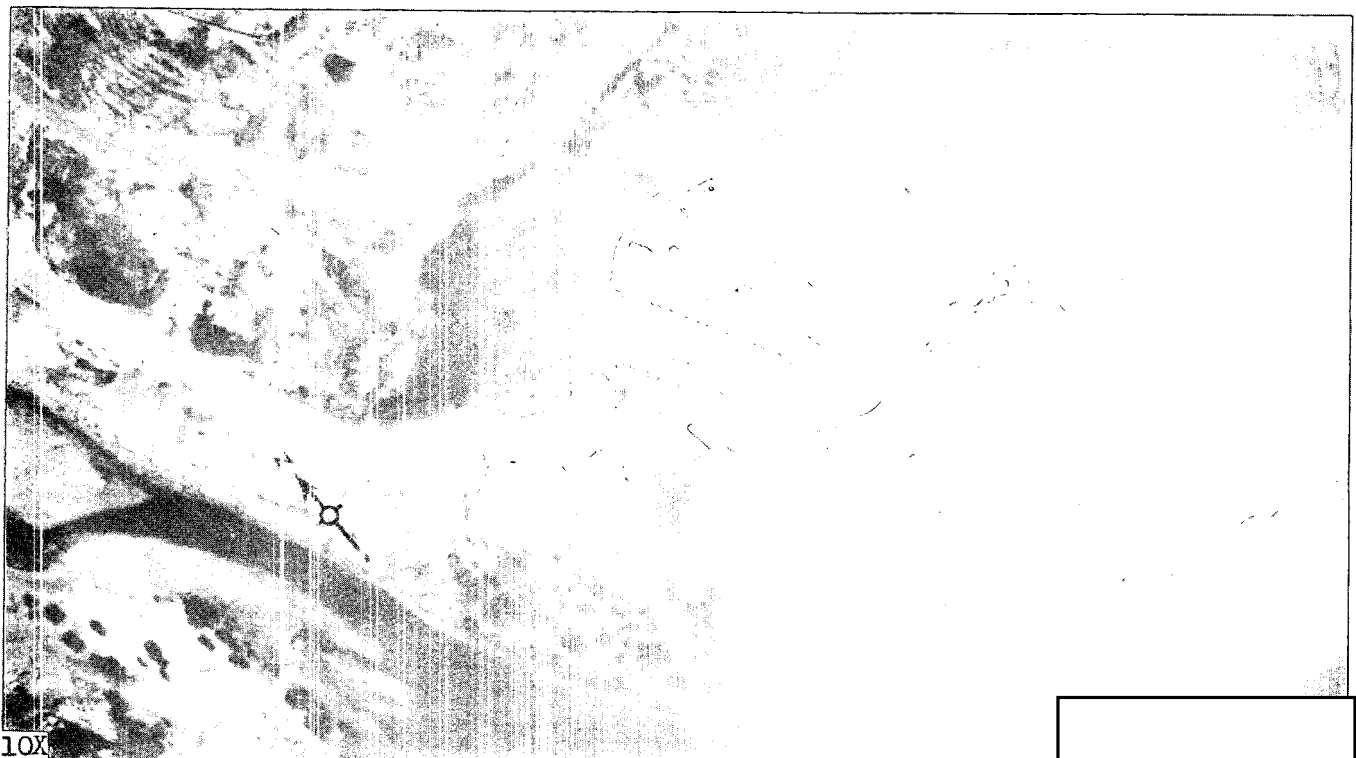
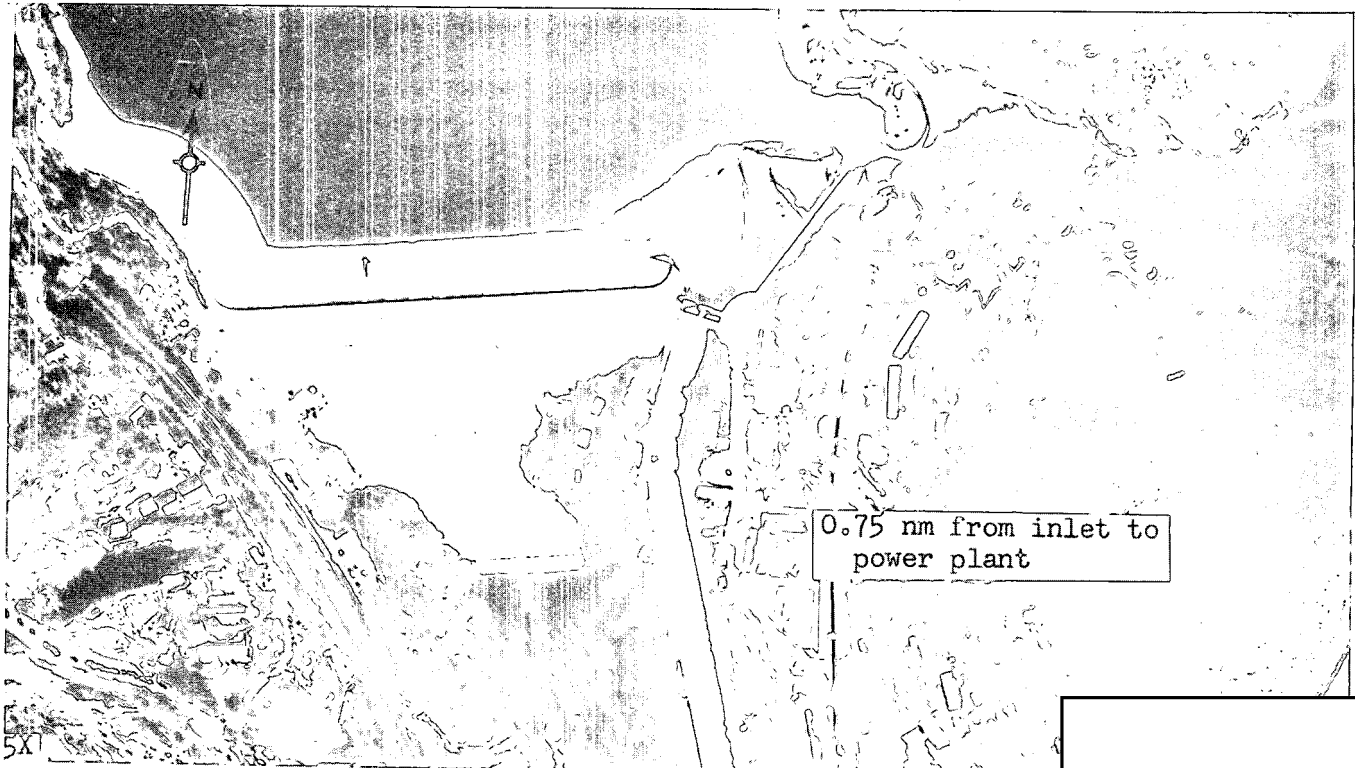
There has been no change or construction during the specified period from 1963 through 1965.

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FIGURE 4

HUAI-LAI HYDRO POWER PLANT
(KUAN-TING)



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LIN-HSI THERMAL POWER PLANT

NPIC NUMBER - 133-A

The Lin-hsi Thermal Power Plant is located in the center of Lin-hsi at coordinates 39 43 10N - 118 26 30E and is coal-operated and rail-served. The complex includes three large cylindrical cooling towers and a probable cooling pond. The plant is located adjacent to a large coal mining operation.

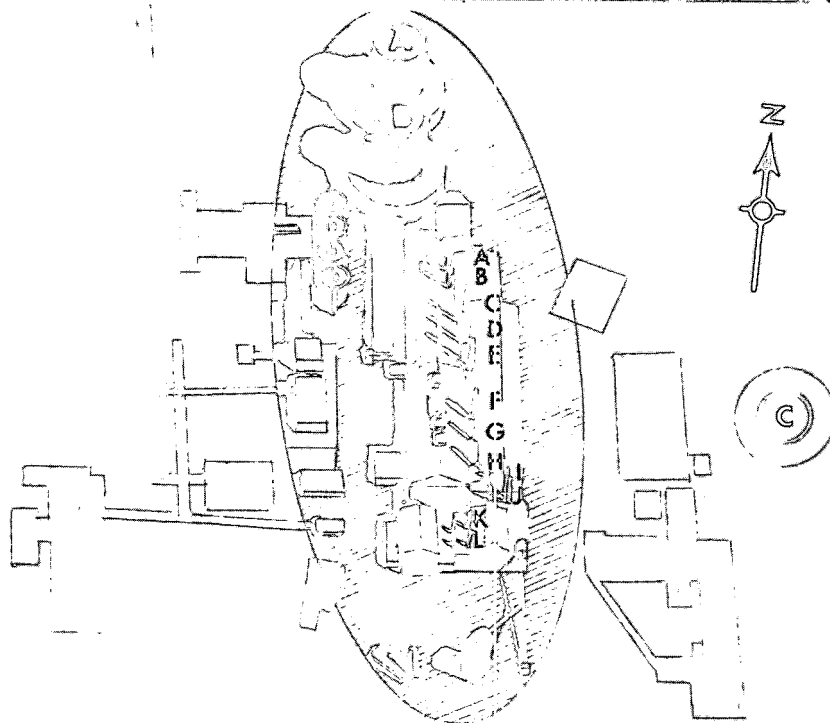
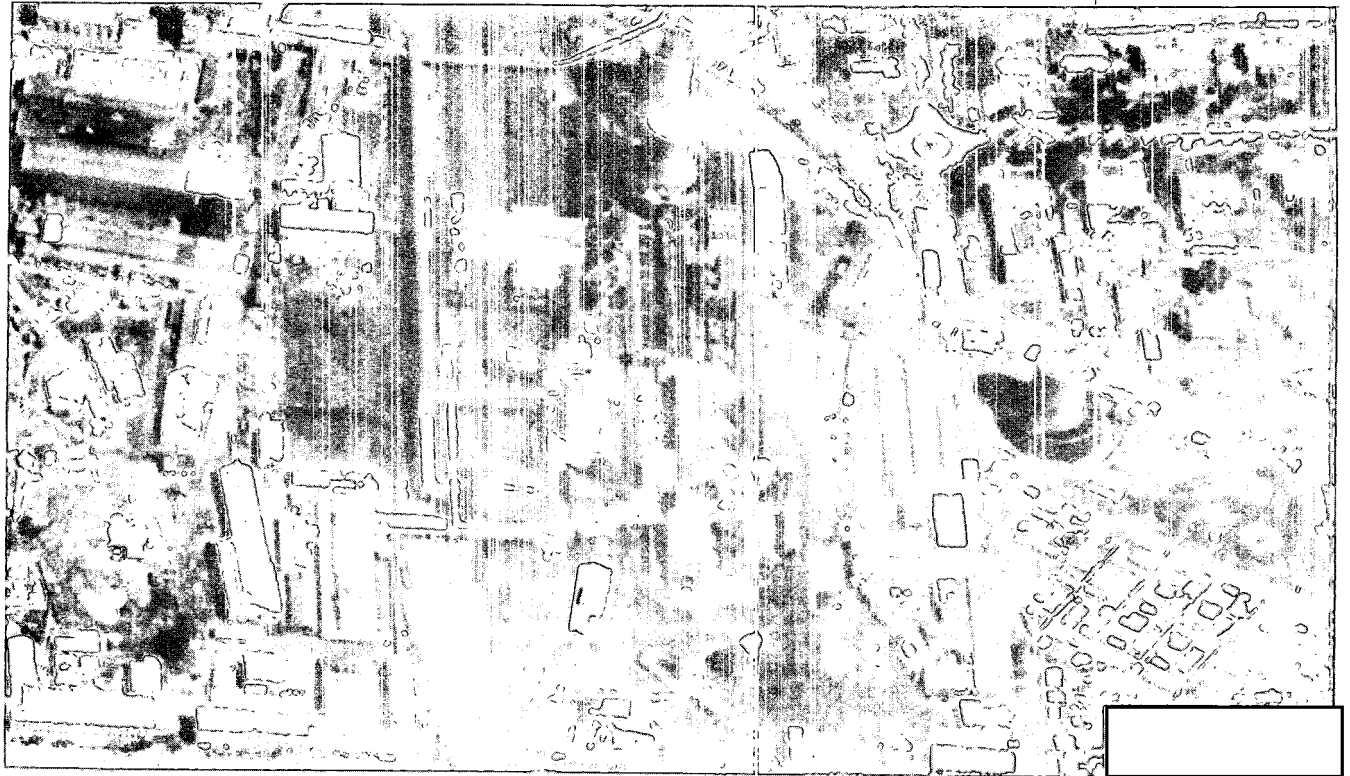
The powerhouse is old and has been enlarged several times. The resultant heterogeneous construction makes a detailed analysis of components questionable; however, there are twelve small stacks on the boilerhouse roof suggesting that as many as twelve boiler units may exist. No power cables or other indications of generator capacity were observed.

There has been no new construction during the specified period from 1963 through 1965.

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CIA/PIR 65150
FIGURE 5

LIN HSI THERMAL POWER PLANT



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CIA/PIR 65150

25X

LIN-HSI THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	No smoke observed. Moderate vapor from cooling towers B and C.
	None	Appears to be moderate smoke from stack G. Moderate vapor from cooling towers A, B, and C.
	None	No smoke observed. Possible light vapor from cooling towers A and B.
	None	No smoke/vapor observed.
	None	No smoke/vapor observed.
	None	Moderate smoke from stacks A or B and G or H. Heavy vapor from cooling tower C.

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LIN-HSI THERMAL POWER PLANT

PHOTO DATA

CONSTRUCTION ACTIVITY

LEVEL OF PRODUCTION

None

No smoke/vapor observed.

None

Light vapor from cooling towers A, B, and C.

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CIA IMAGERY ANALYSIS DIVISION []

25X1 MI-YUN HYDRO POWER PLANT []

NPIC NUMBER - 39-A

25X1 The Mi-yun Hydro Power Plant is located 6.7 nm north of the center of Mi-yun at coordinates 40 28 45N - 116 49 15E. Water enters an intake pump house west of the dam and is then tunneled south 0.7 nm to a probable buried surge tank and then dropped through buried penstocks to the power house. The plant contains six tailwater outlets which suggests that there are six turbo-generator units. A sub-station with possible control house is situated immediately west of the power house; no power cables or transformers could be discerned on the available photography.

25X1 An analysis of the [] missions covering this plant from 1963 through 1965 showed no signs of turbulence from the spillway outlets or new construction.

CIA/PIR 65150
FIGURE 6

MI-YUN HYDRO POWER PLANT



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CIA/PIR 65150

PAO-TING THERMAL POWER PLANT

NPIC NUMBER - 2

The Pao-ting Thermal Power Plant is located 4.5 nm northwest of Pao-ting Airfield at coordinates 38 52 40N - 115 25 40E. The facility is coal-operated, rail-served, and includes six small oil-storage tanks, sub-station with at least six transformers, two spray ponds, extensive coal handling and processing facilities, and numerous support/storage buildings.

The powerhouse is being expanded and apparently consists of two operable boiler-generator units. The boilerhouse is equipped with two sets of dust-catchers and is connected by two sets of four-duct flues to masonry stack A. Space for a third boiler unit exists but there is no dust-catcher unit installed and the flue system is still incomplete. Two sets of three-cable power leads are visible leading from the generator hall to the control house.

One boiler-unit and a probable maintenance building were added during the period from 1963 through 1965.

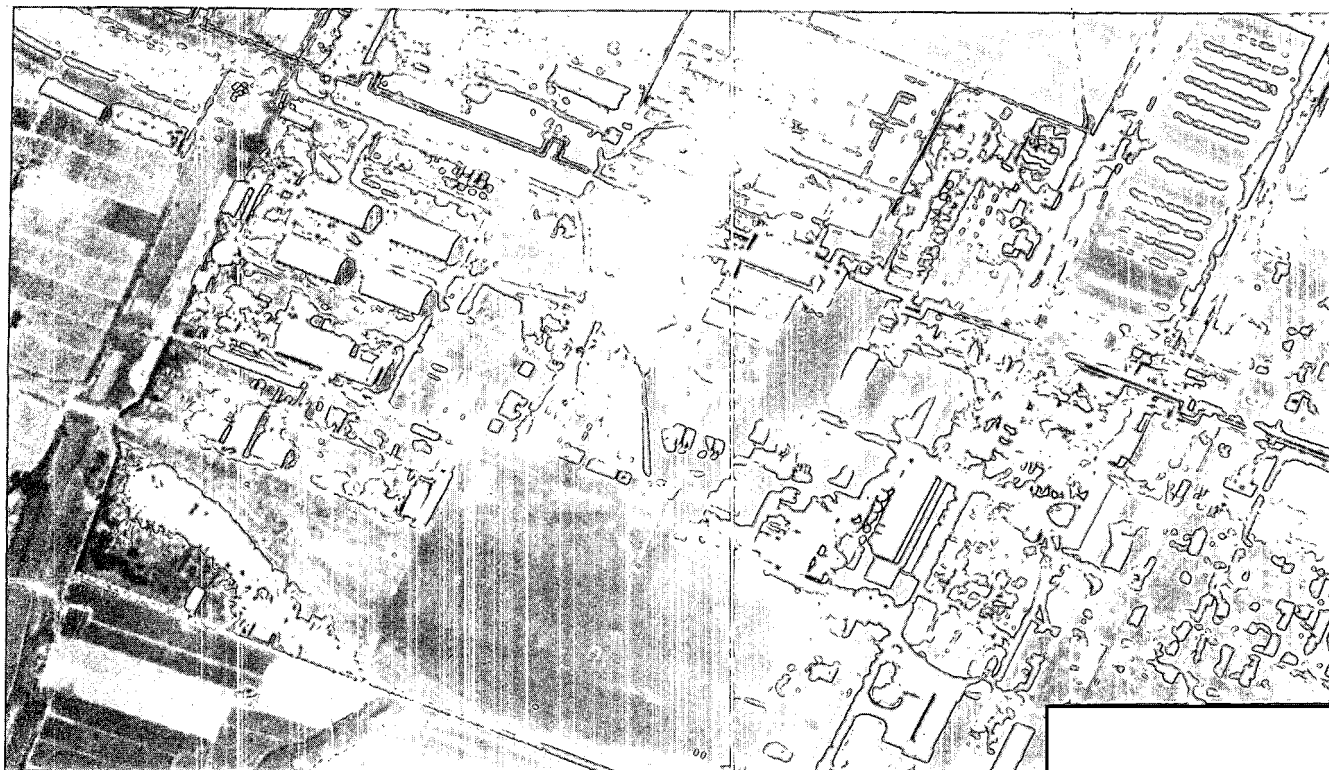
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FIGURE 7

PAO-TING THERMAL POWER PLANT



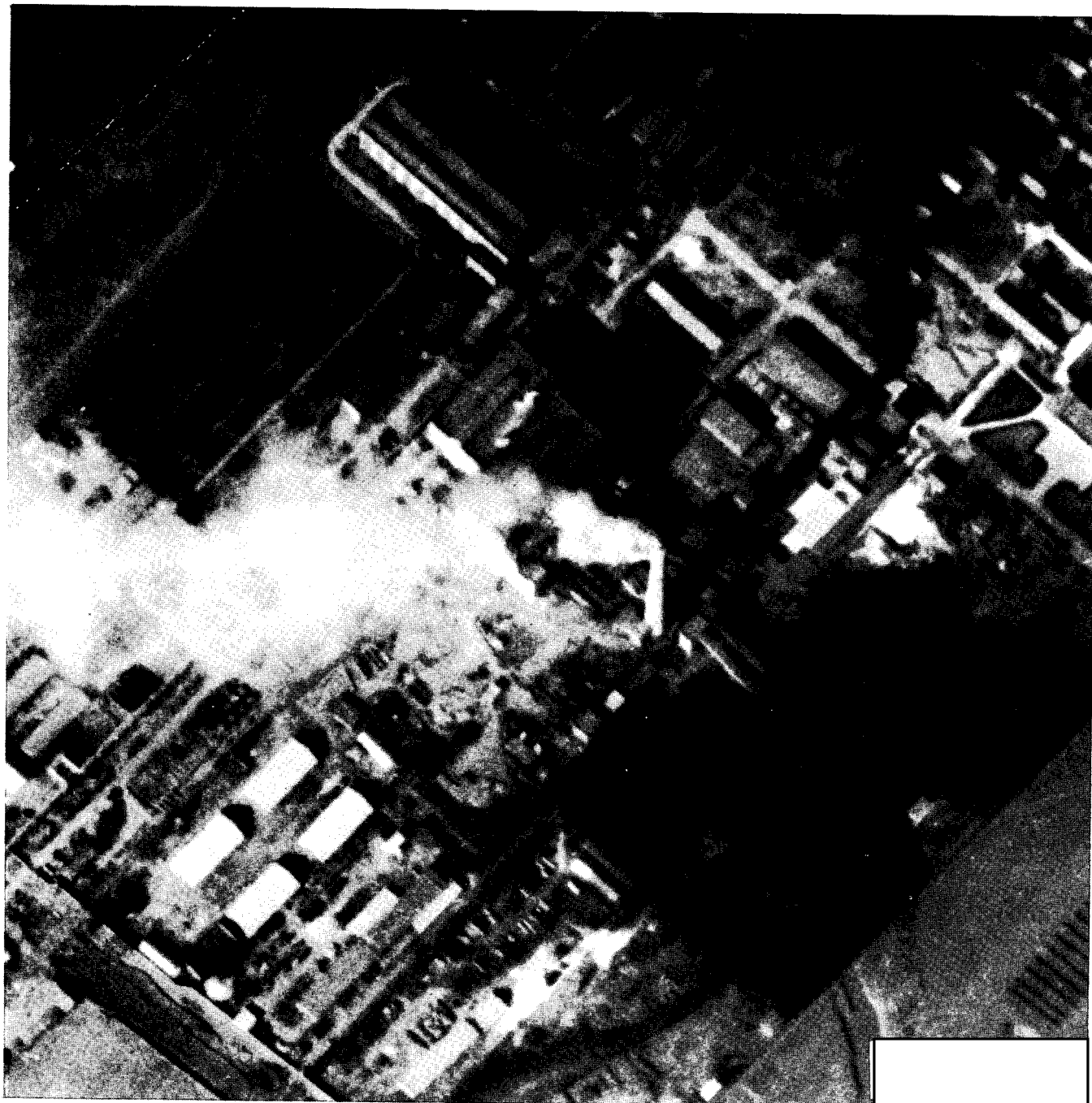
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CIA/PIR 65150
FIGURE 8

PAO-TING THERMAL POWER PLANT



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CIA/PIR 65150

PAO-TING THERMAL POWER PLANT

5X1

PHOTO DATA

CONSTRUCTION ACTIVITY

LEVEL OF PRODUCTION

The boilerhouse addition appears to be largely completed except for installing a dust-catcher and connecting the new unit to stack A. A second coal conveyor has been constructed alongside the first.

No apparent change.

Moderate smoke from stack A. Seven sprinkler units are in operation in spray pond A. Six units are in operation in spray pond B.

Moderate smoke from stack A. Two spray units are in operation in spray pond A and B.

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CIA/PIR 65150

PEIPING HEAT AND THERMAL POWER PLANT TETS

25X1

Peiping Heat and Thermal Power Plant is located in the southeastern sector of Peiping at coordinates 39 54 40N - 116 28 10E. The facility is rail-served, coal-operated and consists of a sub-station with ten probable transformers, control house, steam line running eastward, bridge crane, coal unloading building and coal processing system, eight revetted oil storage tanks, and a possible water purification system.

The boilerhouse is divided into two sections and appears to contain seven boilers. The western section has six sets of dust catcher units and is connected to masonry stacks A and B by six pairs of flues; the eastern boiler section has one dust catcher unit and one set of flues that connect to masonry stack C. There are four visible sets of power cables leading from the generator hall; two sets connect to the control house, one set connects to a transformer, and a fourth set leads to a small building near the sub-station.

No new construction was apparent from 1963 through 1965.

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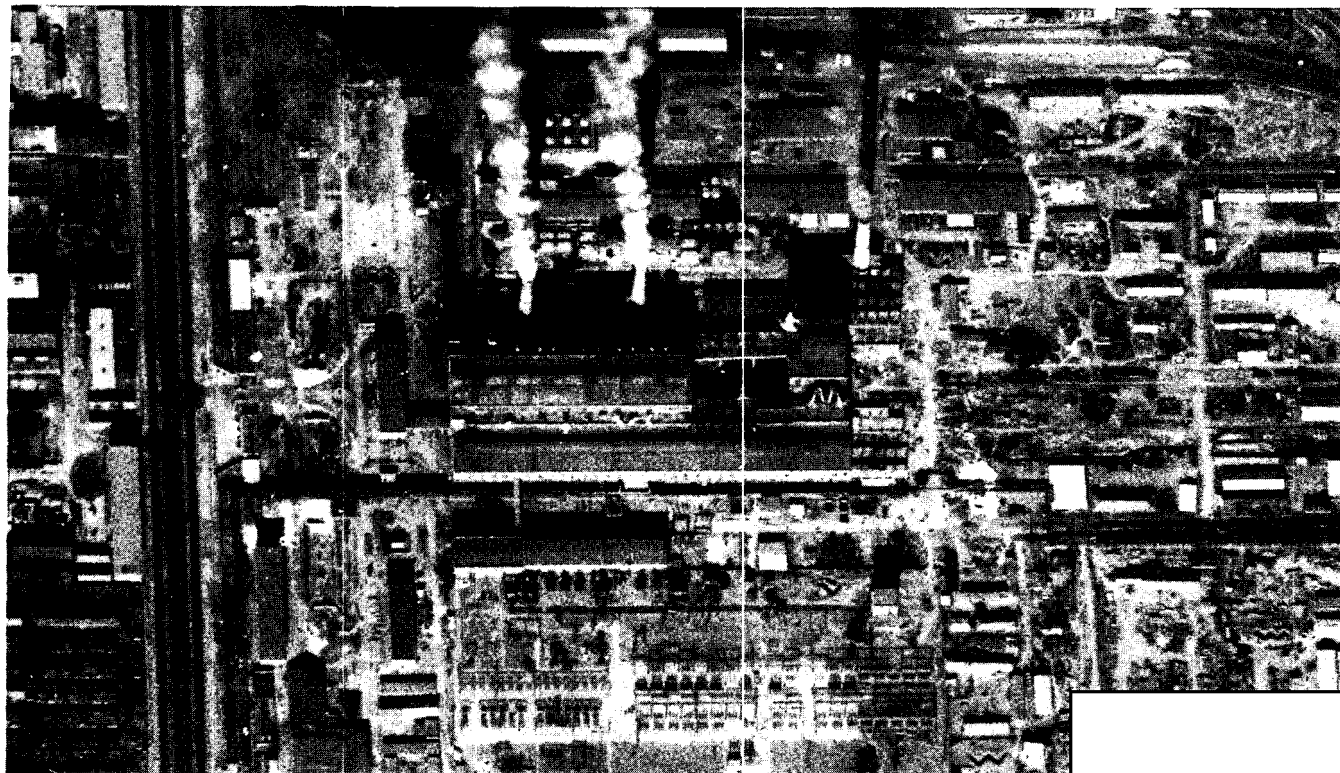
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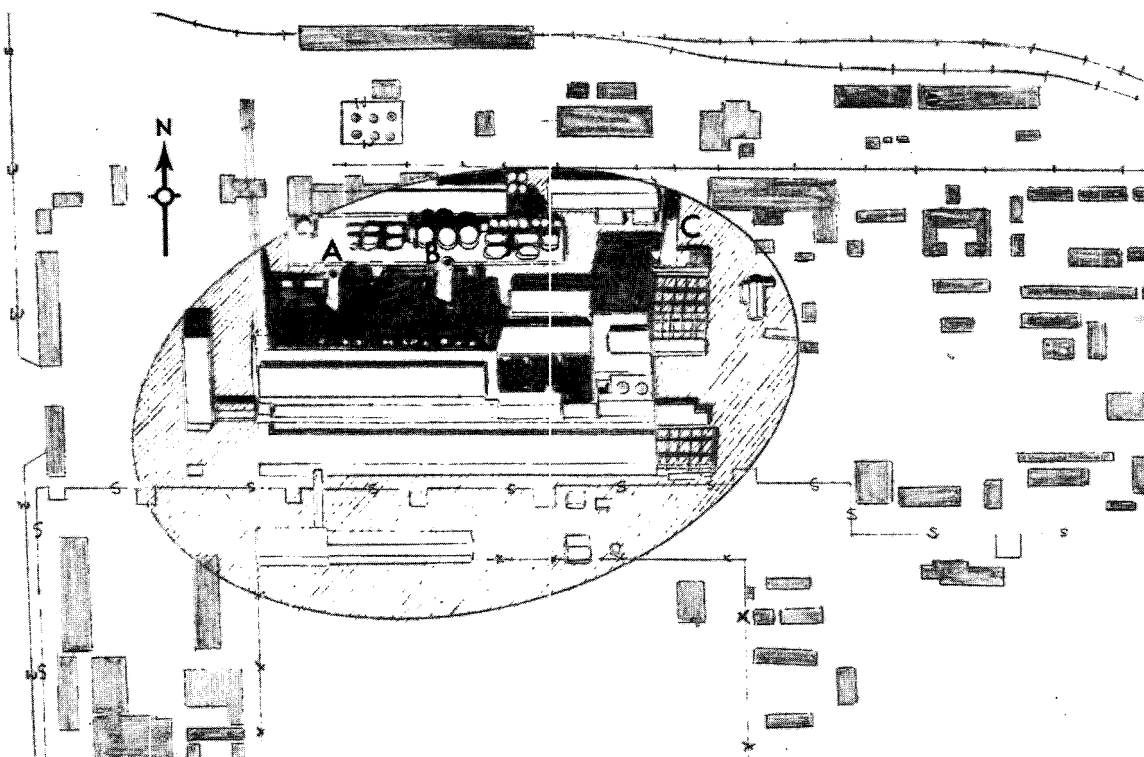
CIA/PIR 65156
FIGURE 9

25X1

PEIPING HEAT AND THERMAL POWER PLANT TETS



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CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

PEIPING HEAT AND THERMAL POWER PLANT TETS.

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	Eastern end of powerhouse is incomplete. It appears that one boiler-generator unit has been finished with others probably to follow.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.

TOP SECRET

TOP SECRET

25X

CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

25X1

PEIPING HEAT AND THERMAL POWER PLANT TETS

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stacks A and B.
	No apparent change.	Heavy smoke from stack B. Moderate smoke from stacks A and C.
	Uprights are visible for second new boiler-generator unit at east end of the plant. These supports were visible on ground photography of	All three stacks smoking heavily.

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CIA/PIR 65150

PEIPING THERMAL POWER PLANT (CHANG-HSIEN-TIEN)

Peiping Thermal Power Plant (Chang-hsien-tien) is located in a small industrial complex west of the Peiping Highway Bridge over the Yungting Ho at coordinates 39 48 50N - 116 08 60E. The facility is coal-operated, rail-served and consists of a sub-station with one probable transformer, control house, three spray ponds, coal conveyor and processing equipment, and miscellaneous support/storage buildings.

The boilerhouse is equipped with three dust-catcher units and appears to be connected to masonry stack A by three single flues, indicating that three boiler units are installed. Power cables could not be discerned between the generator hall and sub-station on available photography.

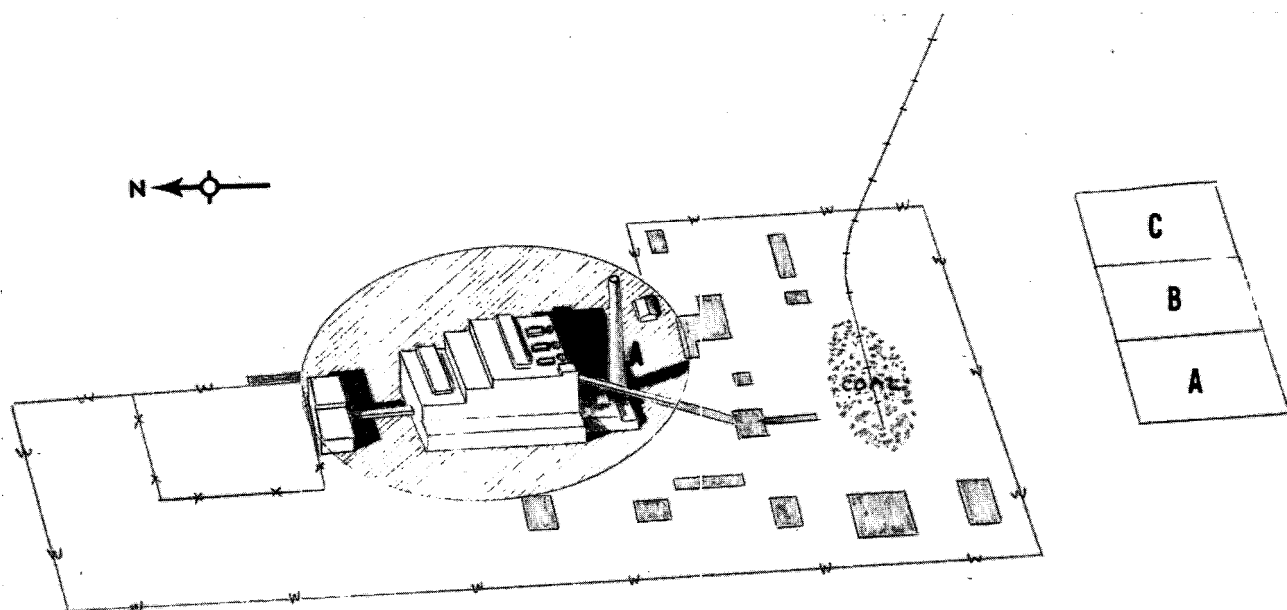
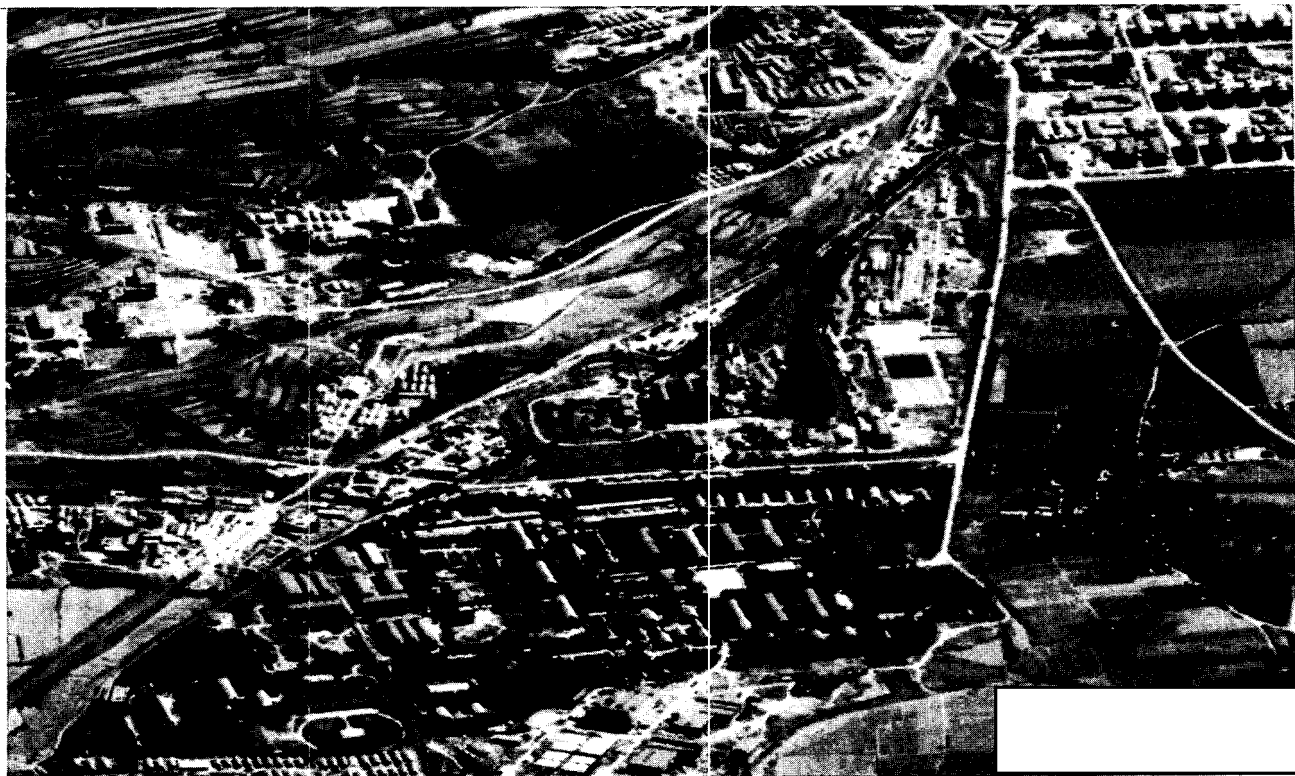
There has been no new construction during the period from 1963 through 1965.

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CIA/PIR 65150
FIGURE 10

PEIPING THERMAL POWER PLANT (CHANG-HSIEN-TIEN)



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25X

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CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

PEIPING THERMAL POWER PLANT (CHANG-HSIEN-TIEN)

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	No smoke observed. Spray ponds A and C appear empty.
	None apparent.	Poor quality film precludes analysis.
	None	Porbable light smoke from stack A. Sixteen sprinkler units in operation in spray ponds A and B.
	None	Light smoke from stack A. Twelve sprinklers in operation in spray ponds A and B.
	None	Light smoke from stack A. Eleven or twelve spray units in operation in spray ponds A and B.
	None	Light smoke from stack A. Eleven sprinkler units in operation in spray ponds A and B.

TOP SECRET

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25X1

CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

PEIPING THERMAL POWER PLANT (CHANG-HSIEN-TIEN)

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Moderate smoke from stack A. Thirteen sprinkler units in operation in spray ponds A and B.
	None	Heavy smoke from stack A. Twenty-one sprinkler units in operation in spray ponds A and B.

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PEIPING THERMAL POWER PLANT (KAO-CHING)

NPIC NUMBER - 50-G1

The Peiping Thermal Power Plant (Kao-ching), also known as Shih-ching-shan Thermal Power Plant (Kao-ching), is located 5.5 nm northwest of the Ch'ang-hsin-tien Railroad Bridge over the Yung-ting Ho at coordinates 39 56 15N - 116 17 30E. The facility is rail-served, coal-operated, walled and includes a sub-station with control house, six oil storage tanks, coal conveyor system, coal car unloading building, and numerous support/storage buildings.

The boilerhouse is equipped with three dust catcher units indicating that three boiler units are installed. A section for a fourth dust catcher exists and is already linked to the stack by a set of flues. Because of consistently poor quality photography, no power cables could be detected.

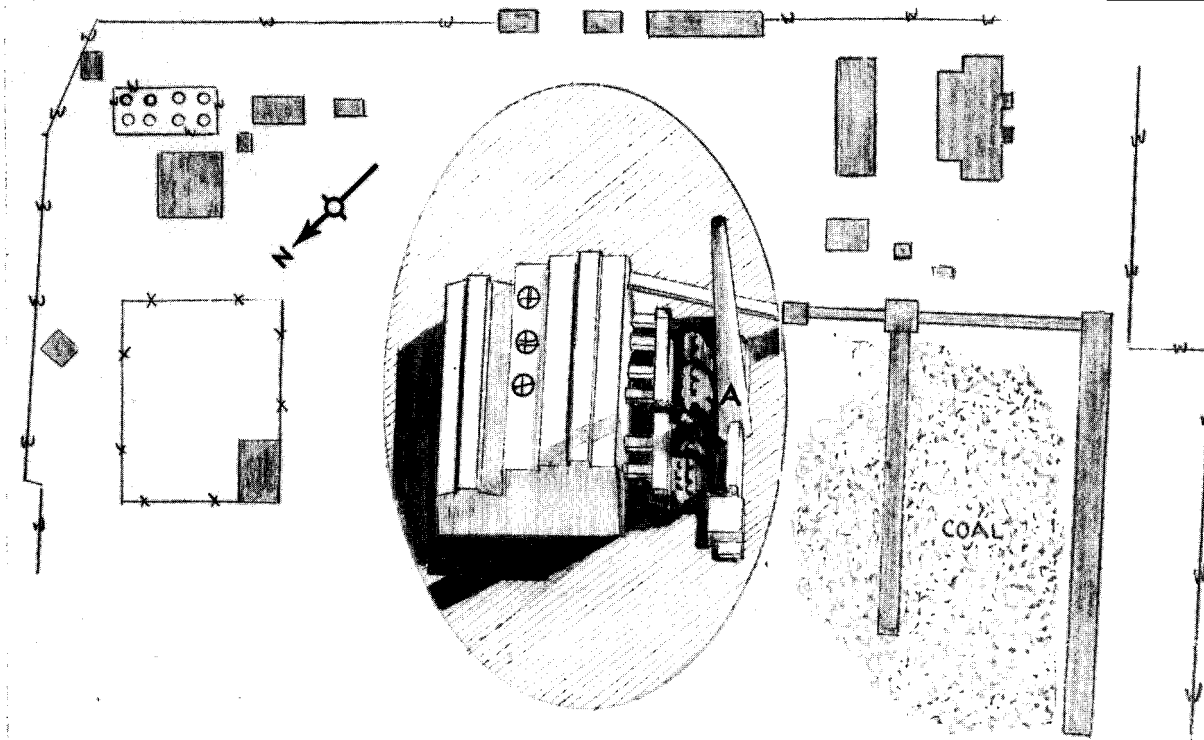
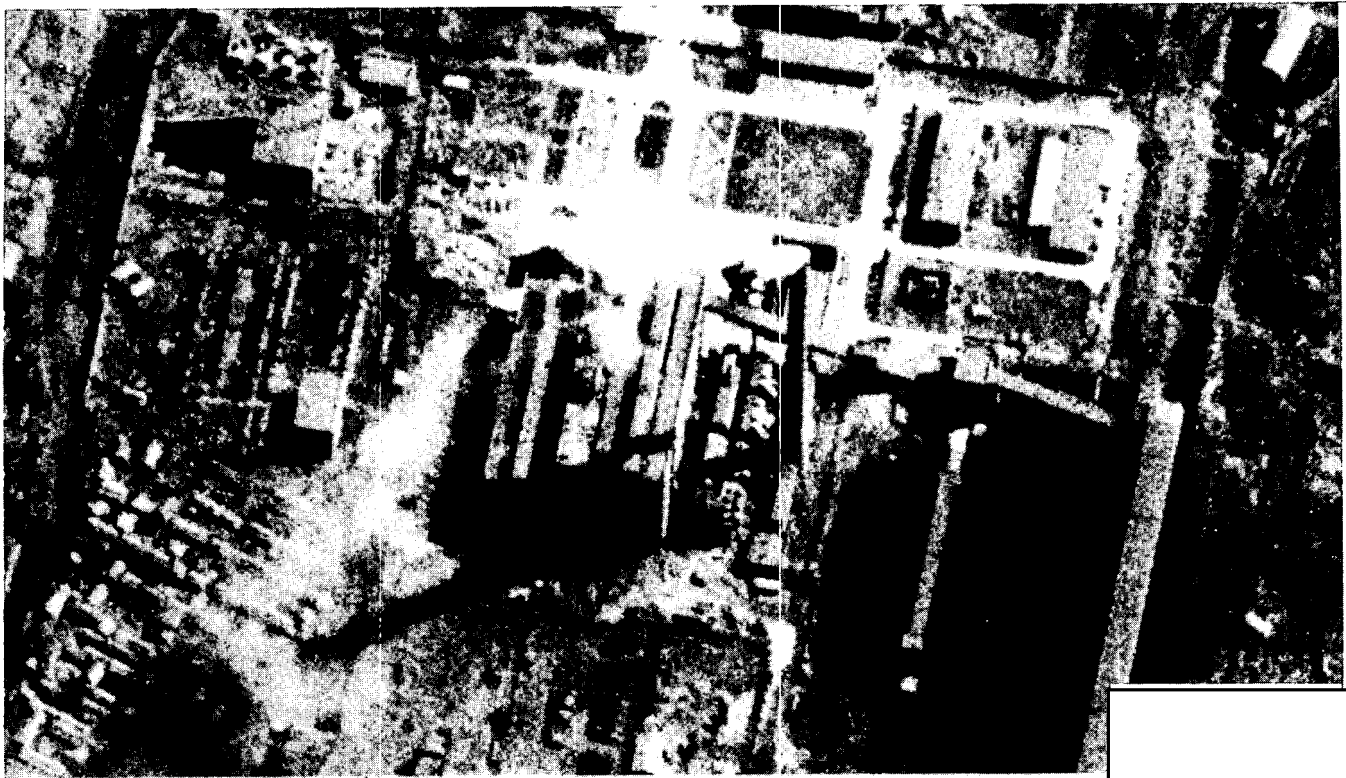
No new construction has occurred during the specified period from 1963 through 1965.

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CIA/PIR 65150
FIGURE 11

PEIPING THERMAL POWER PLANT
(KAO-CHING)



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CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

25X

PEIPING THERMAL POWER PLANT (KAO-CHING)

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None.	Heavy smoke from stack A.
	None	Light smoke from stack A.
	None	Very light smoke from stack A.
	None	Heavy smoke from stack A.
	None	Moderate smoke from stack A.
	None	Heavy smoke from stack A.

TOP SECRET

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CIA/PIR 65150

PEIPING THERMAL POWER PLANT (KAO-CHING)

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stack A. Moderate vapor observed from center of boiler-house in vicinity of dust-catchers.
	None	Moderate smoke from stack A.
	None	Heavy smoke from stack A.

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PEIPING THERMAL POWER PLANT (SHIH-CHING-SHAN)

NPIC NUMBER - 50-6

The Peiping Thermal Power Plant (Shih-ching-shan) is located 2.9 nm southeast of the Northwest Shih-ching-shan Dam at coordinates 39 55 30N - 116 08 05E. The facility is rail-served, coal-operated and consists of four large cooling basins, large sub-station with control house, bridge crane and several large unidentified shop type buildings.

Because of the consistently poor quality photography and the extremely heterogeneous construction of the facility, it was impossible to make a detailed assessment. The plant appears to consist of an old section containing three medium sized stacks (B, C and D), and a newer conventional powerhouse with one large free-standing masonry stack (A). Poor quality photography and the constant smoke and haze over the plant precluded a detailed assessment of the number of boiler and generator units. The new section appears large enough for three medium sized (25 mw range) boiler-generator units; the old section could probably accommodate three to five smaller units. No power leads, transformers or other indicators of capacity could be discerned.

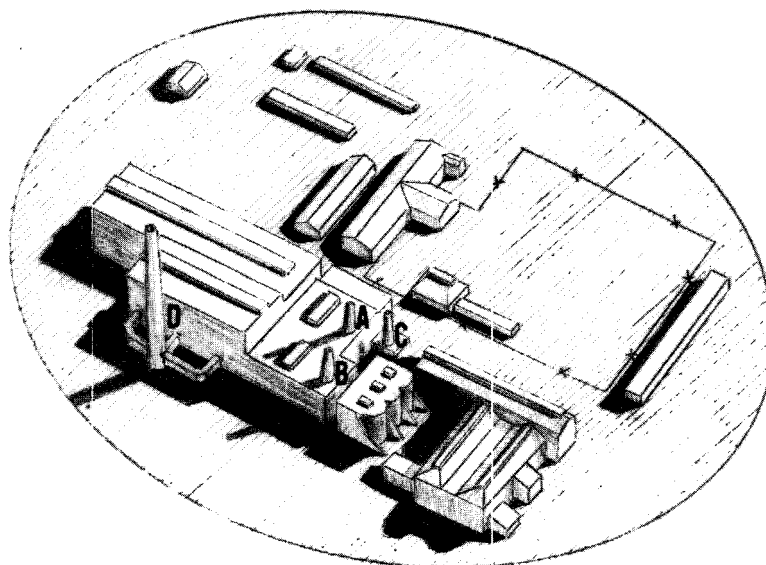
No new construction is apparent from 1963 through 1965.

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FIGURE 12

PEIPING THERMAL POWER PLANT (SHIH-CHING-SHAN)



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CIA/PIR 65150

PEIPING THERMAL POWER PLANT (SHIH-CHING-SHAN)

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Moderate smoke from stack B.
	None	Heavy smoke and poor quality photography precluded analysis.
	None	Heavy smoke from stack A and B. Moderate smoke from stack D.
	None	Light smoke from stack B.
	None	Moderate smoke from stack B. Light smoke from stack D.

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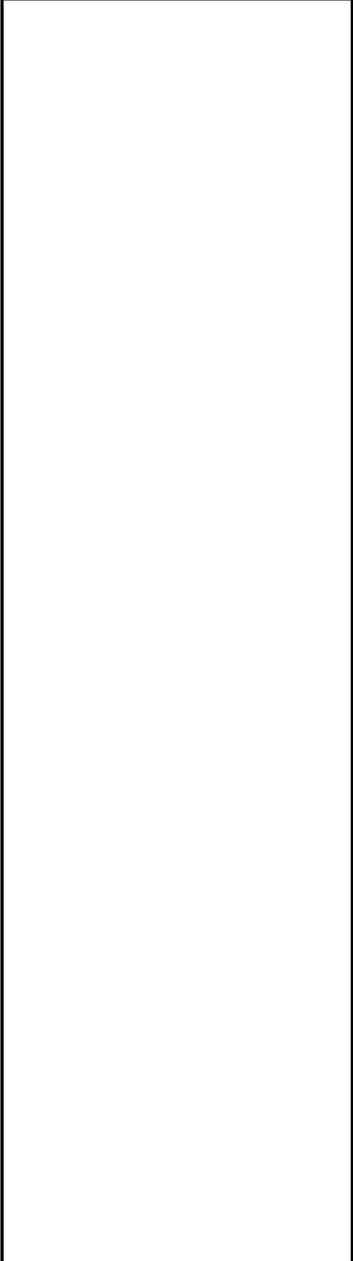
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CIA/PIR 65150

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PEIPING THERMAL POWER PLANT (SHIH-CHING-SHAN)

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Moderate smoke from stacks A, B, and D.
	None	Moderate smoke from stacks A and B.
	None	Moderate smoke from stacks A and B.
	None	Heavy smoke from stack B. Light smoke from stack D.
	None	Light smoke from stacks A, B, and D.
	None	Moderate smoke from stacks A and B. Probable light smoke from stack D.

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PING-SHAN HYDRO POWER PLANT

The Ping-shan Hydro Power Plant is located on a new reservoir which empties into the Hu-t'o Ho, 0.9 nm west-northwest of Ping-shan at coordinates 38 18 10N - 114 01 50E. The completed generator hall appears to be linked by a single buried conduit to the water intake facility. A probable water control building sits astride the conduit near the base of the dam. Although a sub-station or control house is not evident, the presence of turbulence in the tailrace on several photographic missions indicates that the plant is operable.

There has been no apparent construction during the 1963 through 1965 period.

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CIA/PIR 65150
FIGURE 13

PING-SHAN HYDRO POWER PLANT



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CIA/PIR 65150

PING-SHAN HYDRO POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	No turbulence noted.
	None	Moderate turbulence from the center outlet of plant with light turbulence at the sides.
	None	Slight turbulence observed at northern outlets.
	None	Slight turbulence observed at the northern outlets.
	None	No turbulence observed.
	None	No turbulence observed.

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SHIH-CHIA-CHUANG (SHIH-MEN) THERMAL POWER PLANT

The Shih-chia-chuang (Shih-men) Thermal Power Plant is located 0.2 nm southeast of the Shih-chia-chuang Railroad Yards East at coordinates 38 03 40N - 114 31 20E. The facility is coal-operated, rail-served, and consists of five spray ponds, control house, sub-station, and coal-handling and processing facilities.

The boilerhouse is compartmented into three sections and appears to have eight boiler units as indicated by the number and placement of dust-catcher units and flues. The western boiler section contains four dust-catchers and a system of four single flues which connect with stack A. The center section contains three dust-catcher units and is linked to stack B by two pairs of two-duct flues and one three-duct flue. The section served by stack C is still expanding and presently contains one dust-catcher unit and space for a second. Two pairs of two-duct flues connect the section with stack C. It is likely that three or four more units are planned for the eastern section of the plant. The absence of good quality, large scale photography precluded any assessment of the number of generator hall sections or power cable leads.

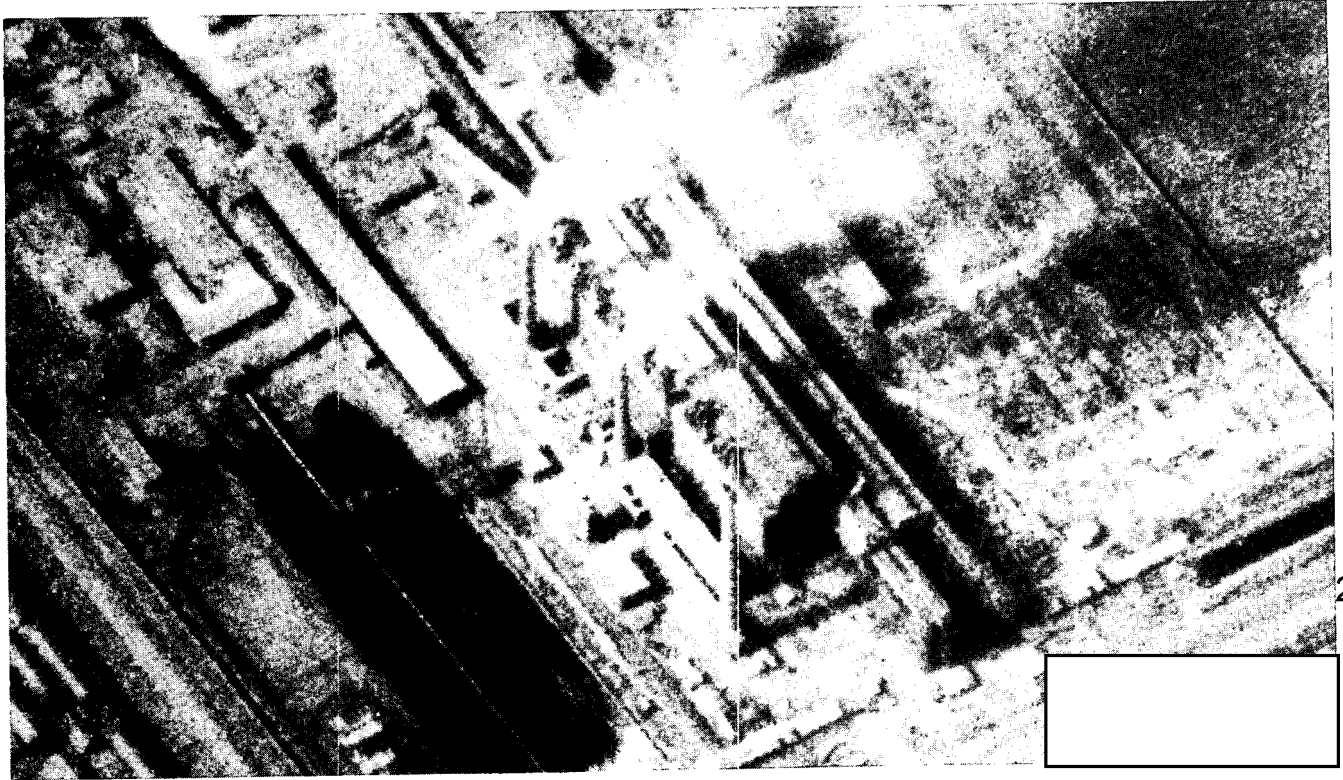
Considerable expansion occurred at the eastern end of the plant from 1963 through 1965.

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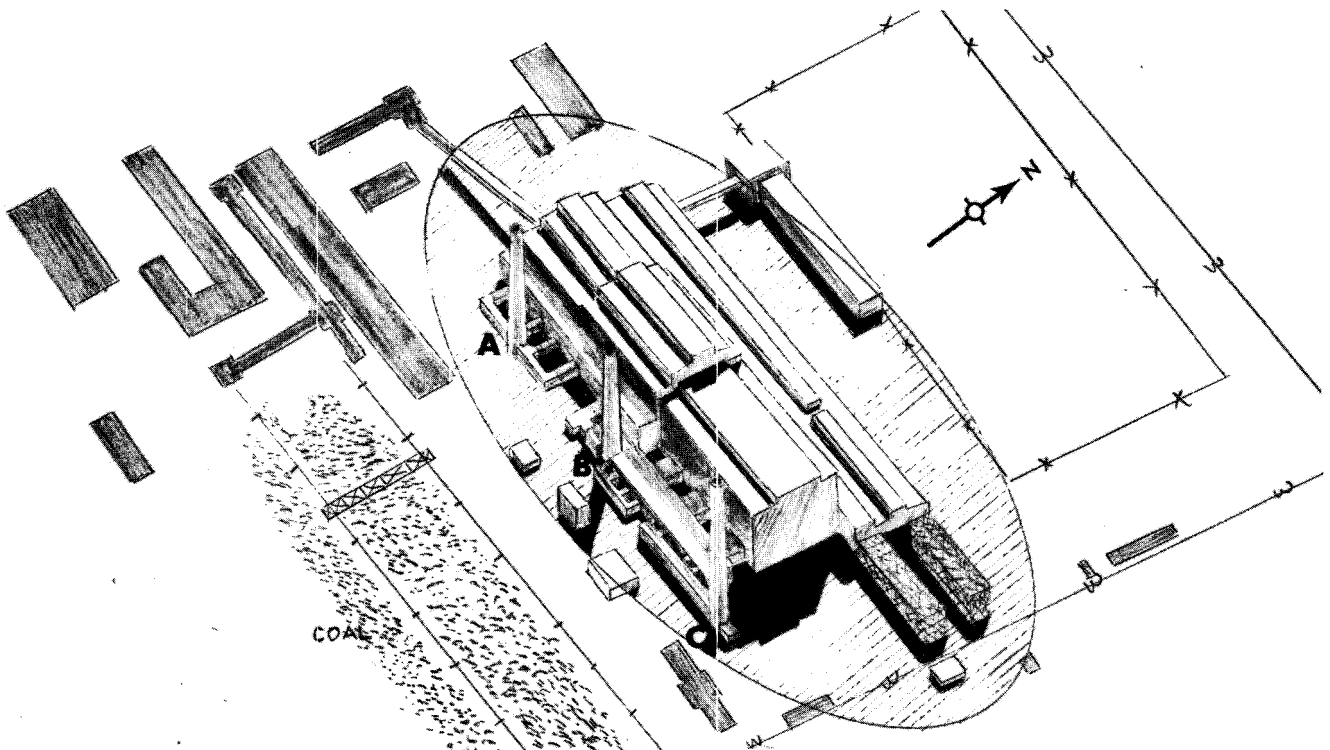
CIA/PIR 65150
FIGURE 14

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SHIH-CHIA-CHUANG (SHI-MEN) THERMAL POWER PLANT



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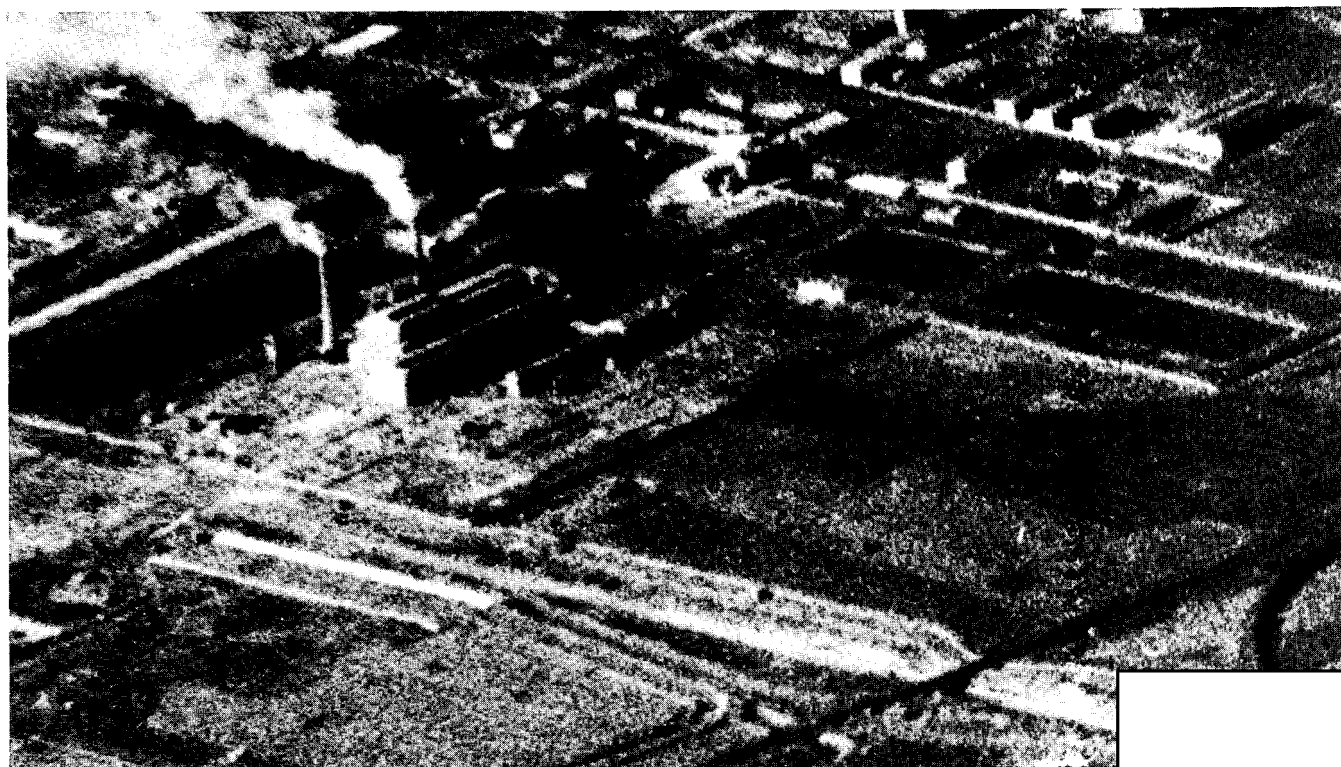
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CIA/PIR 65150
FIGURE 15

SHIH-CHIA-CHUANG (SHI-MEN) THERMAL POWER PLANT



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CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

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SHIH-CHIA-CHUANG (SHIH-MEN) THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stack A. Light smoke from stack B. Six sprinkler units in operation in pond A. Fourteen sprinkler units in operation in pond B.
	None	Moderate smoke from stacks A and B. Clouds precludes further analysis.
	None	Moderate smoke from stack B. Light smoke from stack A. Eight sprinkler units in operation in pond A. Twelve sprinkler units in operation in pond B.
	None	Light smoke from stack A. Sixteen sprinklers in operation in pond B. Undeterminable number of sprinkler units in operation in pond A.
	None	Heavy smoke from stack A. Moderate smoke from stack B. Sixteen sprinklers in operation in pond B. None in pond A.

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SHIH-CHIA-CHUANG (SHIH-MEN) THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	<p>Expansion is underway on the eastern end of the powerhouse. Stack C is complete and connected to new boiler-generator section. Uprights for at least one section are visible.</p> <p>Two or possibly three boiler sections have been completed; however, one section is not yet equipped with a dust-catcher. All new sections appear to be connected by flues to stacks (one section to stack B; two sections to stack C).</p>	<p>Moderate smoke from stacks A and B. Six sprinkler units in operation in pond A. Eighteen sprinkler units in operation in pond B.</p> <p>Moderate smoke from stack A. Light smoke from stack B.</p>

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CIA/PIR 65150

TANG-SHAN THERMAL POWER PLANT

NPIC NUMBER - 65C

The Tang-shan Thermal Power Plant is located 0.25 nm east of the southern end of Tang-shan Airfield Northwest at coordinates 39 38 40N - 118 11 50E. The facility includes one natural-draft cooling tower, control house, sub-station, extensive coal handling and storage facilities, and miscellaneous support/storage buildings.

The plant possibly consists of two separated powerhouses, although the lack of good, large scale photography made such an analysis uncertain. The main powerhouse is equipped with five probable dust-catchers and five sets of two-duct flues. Two pairs of flues appear to be serviced by masonry stack A, possibly indicating a large (50 mu range) boiler-generator unit.

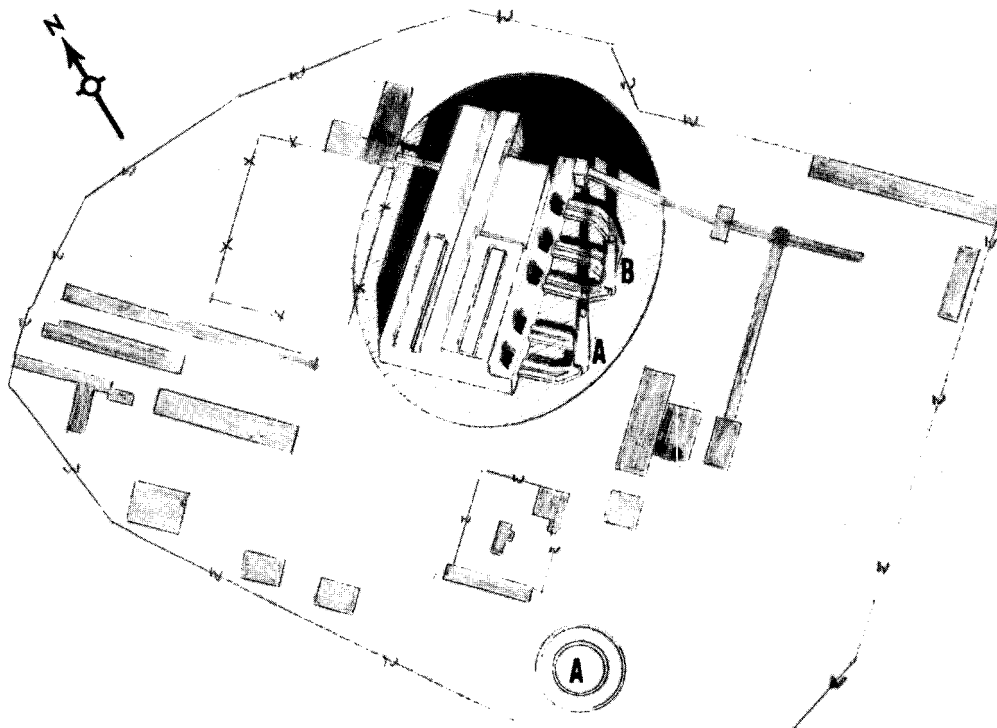
The flue system for the remaining three pairs of flues is unclear, however, they are probably connected to stack B. A smaller possible powerhouse is located southeast of the main plant. It consists of what appears to be an almost square boiler section with two generator hall wings. Two small roof stacks or vents are apparent. No power cables were discernable on any of the photography of the complex.

No new construction was apparent during the period from December 1963 through 1965.

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FIGURE 16

TANG-SHAN THERMAL POWER PLANT



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CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

TANG-SHAN THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stacks A and B. Light vapor from cooling tower A.
	None	Light smoke from stack B. Moderate vapor from cooling tower A.
	None	Heavy smoke from stacks A and B. Light vapor from cooling tower A.
	None	Heavy smoke from stacks A and B. Light vapor from cooling tower A.
	None	Heavy smoke from stacks A and B. Light vapor from cooling tower A.
	None	Heavy smoke from stacks A and B. Moderate vapor from cooling tower A.

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CIA/PIR 65150

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TANG-SHAN THERMAL POWER PLANT

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stacks A and B. Heavy vapor from cooling tower A.
	None	Heavy smoke from stack A. Moderate smoke from stack B. Light vapor from cooling tower A.
	None	Heavy smoke from stacks A and B. Light vapor from cooling tower A.

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5X11 TIENTSIN THERMAL POWER PLANT NO. 1 []

NPIC NUMBER - 67-J

The Tientsin Thermal Power Plant No. 1 is located on the north bank of the Pai Ho (River) 1.3 nm southeast of Tientsin Railroad Station and Yards at coordinates 39 06 43N - 117 13 09E. The facility is rail-served, coal-operated, and includes two bridge cranes, coal handling and processing equipment, control house, two sub-stations with four transformers visible and numerous support buildings.

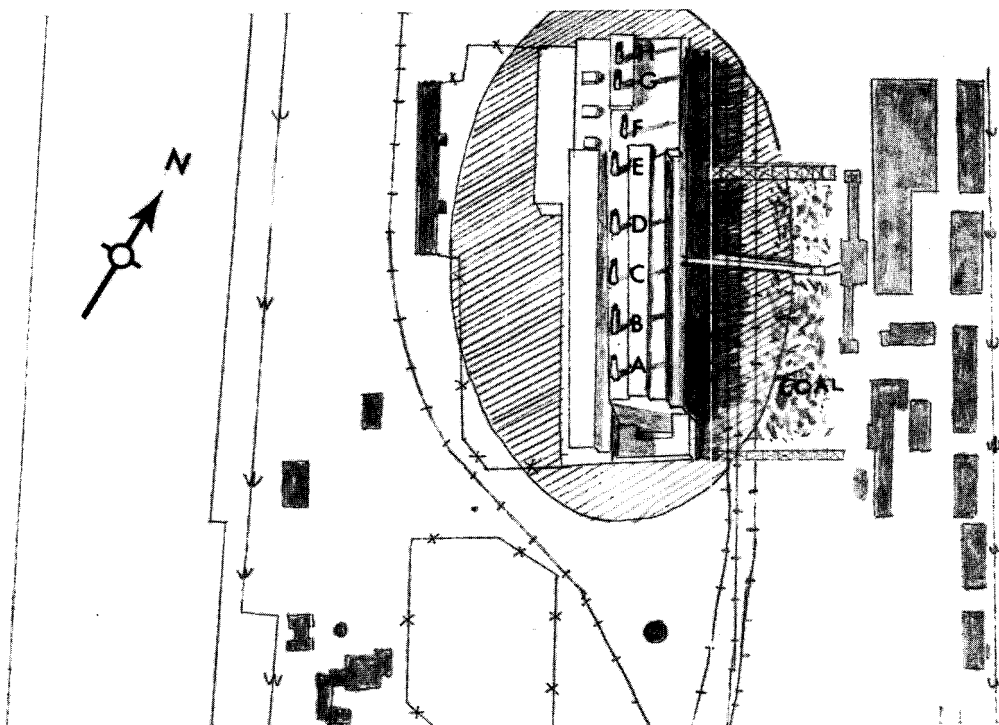
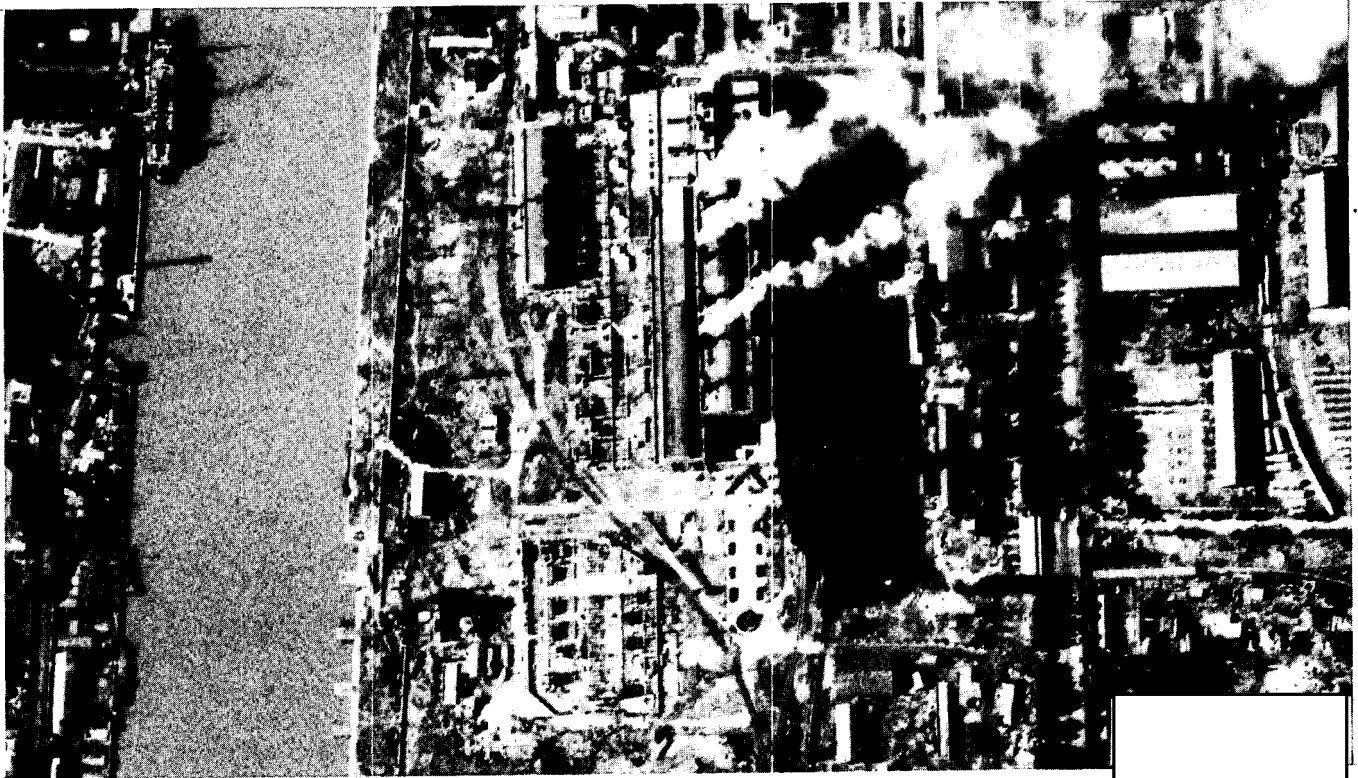
The boilerhouse has eight dust-catcher units and eight stacks, indicating eight boiler units. The southern section of the generator hall is linked to the nearby sub-station by three or possibly four sets of three-cable power leads. The northern section is not visibly tied in to the adjacent control house.

No significant change has occurred at this plant from 1962 through 1965.

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CIA/PIR 65150
FIGURE 17

TIENTSIN THERMAL POWER PLANT NO. 1



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CIA IMAGERY ANALYSIS DIVISION

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TIENTSIN THERMAL POWER PLANT NO. 1

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stacks A, B, D, and E. Moderate smoke from stack H.
	None	Heavy smoke from stack A, B, and C. Moderate smoke from stack H.
	None	Moderate smoke from stacks A, B, C, and D.
	None	Moderate smoke from stacks A, C, D, E, and G.
	None	Moderate smoke from all eight stacks (A-H)

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CIA IMAGERY ANALYSIS DIVISION

CIA/PIR 65150

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TIENTSIN THERMAL POWER PLANT NO. 1

PHOTO DATA	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stacks A and D. Others are partially obscured by smoke and haze; however, stacks B and C are possibly active.
	None	Heavy smoke from stacks A, B, C, D, and E. Light smoke from stacks G and H.
	None	Moderate smoke from stacks A, B, C, D, and E. Light smoke from stacks F, G, and H.
	None	Heavy smoke from stacks E, F, and G.

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CIA/PIC 05150

TING-HSIEN HYDRO POWER PLANT

The Ting-hsien Hydro Power Plant is located 18 nm northwest of Ting-hsien on the T'ang Ho at coordinates 38 45 30N - 114 45 20E. The facility consists of an earth fill dam with buried penstocks, an overflow outlet, probable sub-station under construction, a control house and other unidentified construction.

It is difficult to ascertain the number of turbines; however, the size of the generator hall indicates two or three units. Of the [] missions that covered this plant, [] was the only mission that showed activity (See Figure 1).

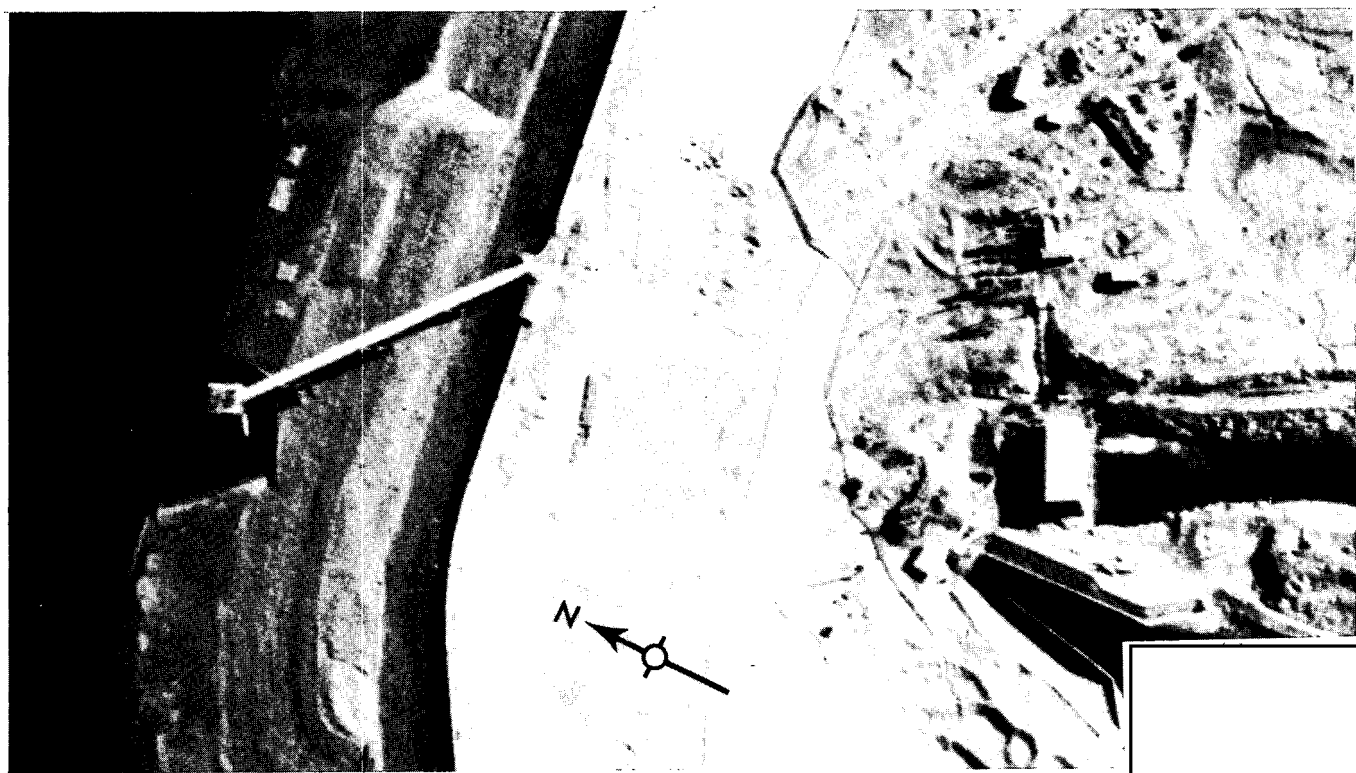
There has been no new construction at this plant during the 1963 through 1965 period.

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CIA/PIR 65150
FIGURE 18

TING-HSIEN HYDRO POWER PLANT



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PIR 67003/05

overage

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PIR 67004/65

Oversize

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CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

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August 1965

ERRATUM FOR CIA/PIR-67005

All pages of the Photographic Intelligence Report, Highway Bridge over the Mekong River, Yun-Ching-Hung, China, the CIA/PIR number should be changed from 67004 to 67005.

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CENTRAL INTELLIGENCE AGENCY
PHOTOGRAPHIC INTELLIGENCE DIVISION
PHOTOGRAPHIC INTELLIGENCE REPORT

HIGHWAY BRIDGE OVER THE MEKONG RIVER YUN-CHING-HUNG, CHINA



CIA/PIR-67005

JULY 1965



WARNING

This document contains information affecting the national defense of the United States, within the meaning of Title 18, sections 793 and 794, of the U.S. Code, as amended. Its transmission or revelation of its contents to or receipt by an unauthorized person is prohibited by law.

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GROUP 1
Excluded from automatic
downgrading and declassification

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[REDACTED]
CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

HIGHWAY BRIDGE OVER THE MEKONG RIVER
YUN-CHING-HUNG, CHINA
(22 00N-100 48E)
[REDACTED]

The Yun-Ching-Hung, China area (22 00N-100 48E) was studied on latest available aerial photography [REDACTED] in order to determine the dimensions of the highway bridge over the Mekong River, to identify significant installations in the general area, and to determine the status of construction activity near the bridge.

Since the bridge and its approaches appear to have been completed, the only significant construction activity near this bridge is a possible radar site under construction north of the bridge. (See Annotation 2)

The bridge dimensions are [REDACTED] All measurements have been made by the NPIC Technical Intelligence Division, and are considered to be accurate to within plus or minus one %.

CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

REFERENCES

MAPS OR CHARTS

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U.S. Air Target Chart-Series 200, 1st. Edition, May 1960 (SECRET)

REQUIREMENT

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CIA, PHOTOGRAPHIC INTELLIGENCE DIVISION

KEY TO ANNOTATIONS ON FIGURE 1.

1. Bridge
2. Possible radar site under construction.
3. Barracks/Storage Areas (These two areas appear to be non-military and probably have the function of supporting the road construction/maintenance activity and economic development of this border area of China.)
4. Ferry
5. City of Yun-Ching-Hung
6. Storage Areas (This area is probably used for the storage of agricultural products.)
7. Military Barracks
8. AAA Site (This site consists of nine positions for light AAA or heavy machine guns. Occupancy of the positions cannot be determined from available photography.)

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YUN-CHING-HUNG, CHINA

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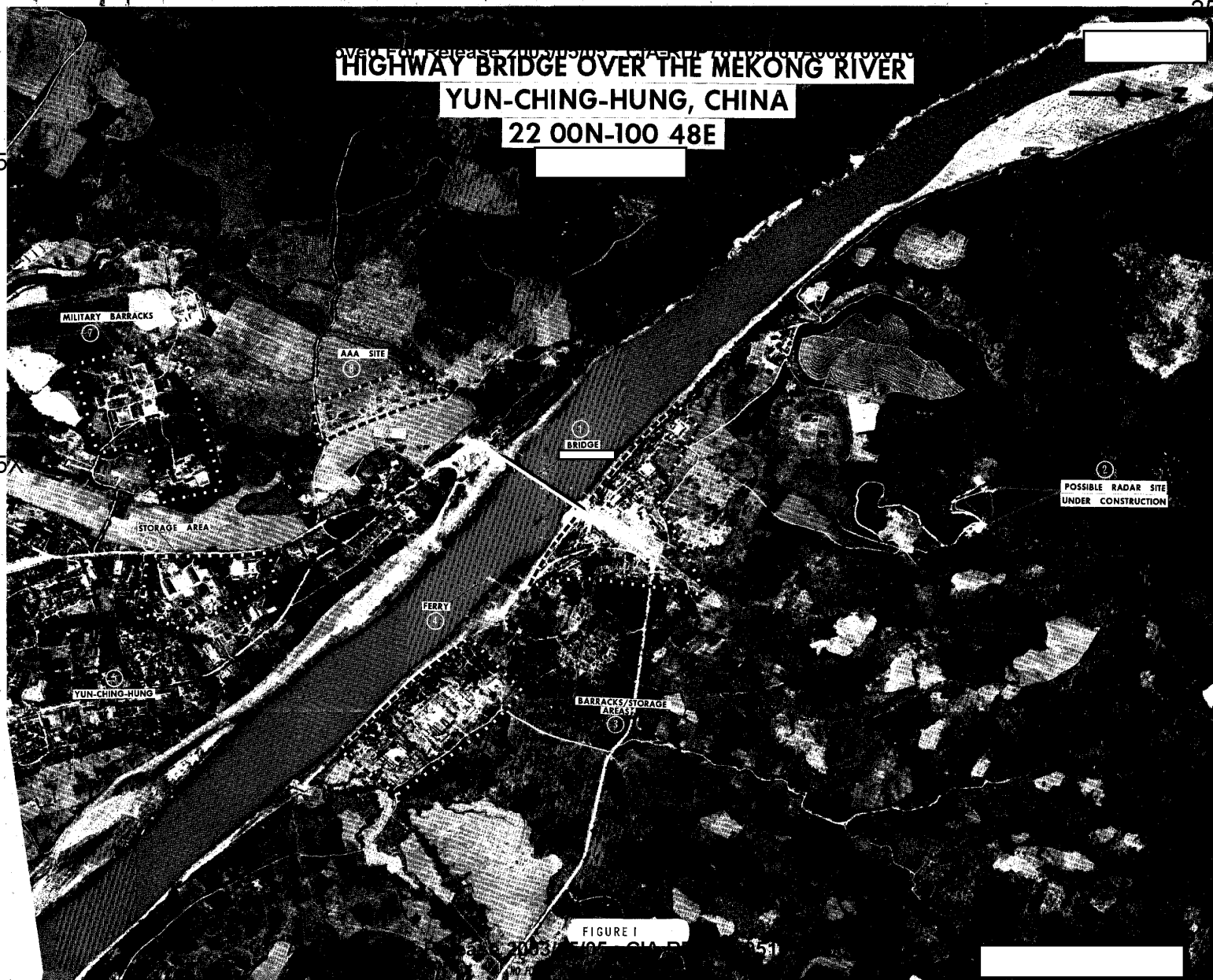


FIGURE 1

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